THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

IT has been found more convenient to publish Professor Hull's popular account of his Expedition in a separate volume than in the *Quarterly Statement*, as was at first intended. This volume is now advanced, and will be issued as soon as possible. It is illustrated by many drawings and sketches, and will be the first complete account ever published of the great valley known as the Wâdy Arabah. Professor Hull's Geological Memoirs will follow later on.

We are able to give in the present number Major Kitchener's paper on the geographical side of the Expedition. This is accompanied by a section of the Wâdy Arabah drawn by Mr. Armstrong. The paper has not had the advantage of Major Kitchener's corrections, but is supplemented for purposes of clearer understanding in parts by extracts taken from Professor Palmer's "Desert of the Exodus." Major Kitchener is now, as is known to everybody, at Dongola.

The new maps showing both the east and the west side of the Jordan are nearly drawn and completed for the engraver, but it is as yet impossible to state exactly when they will be ready. Sir Charles Wilson, who was to have superintended their production, is now in Egypt, and it is impossible to say when he will return.

With regard to present and future survey and exploration work in Palestine, the Committee are engaged in considering certain proposals of which it would be premature to speak here. But as regards work at home that requires funds, it must be remembered that we have in hand, as yet unpublished, the following works:—

(1) Captain Conder's Memoirs of the Eastern Palestine Survey, so far as it has been completed. These are much more voluminous than the Memoirs written by him for the other side, and are accompanied by many hundreds of drawings and plans. The cost of producing them will be not less than £1,500.

(2) The drawings executed for M. Clermont-Ganneau by M. Lecomte ten years ago. These are chiefly architectural, and are of the greatest beauty and value. It is estimated that they could not be produced at a cost of less than £1,200.

(3) Professor Hull's Geological Memoirs, which are not yet completed.

We have, therefore, plenty of work before us, even supposing that we do not get the Firmân required for the continuance of the survey of Eastern Palestine. Perhaps it may be found desirable to publish the first two of these works by special subscription.

The last two volumes and the Jerusalem Portfolio of the "Survey of Western Palestine" are now in the hands of the subscribers. *The Committee will be very much obliged by the payment of any subscriptions due.* It must be understood that none of the volumes will be reprinted except the "Flora and Fauna," and the "Jerusalem" volumes, the type of which is kept standing.

As for the copies which remain, it is much to be desired that they should be taken by public libraries, and the Committee will be very glad if their subscribers will cause the work, of which only a few copies remain, to be taken by any library as yet without it.

Dr. Wright's much expected book on "The Empire of the Hittites" is now ready.

In 1872, at the suggestion of Mr. Drake, Dr. Wright, then living in Damascus, secured for this Society plaster casts of the Hamath inscriptions. He accompanied the casts by a descriptive memorandum, and also wrote an article in which he was the first to argue that the inscriptions were Hittite remains. The memorandum was published in our *Quarterly Statement*, and the article in the *British Quarterly Review*.

The theory of the Hittite origin of the Hamath and other similar hieroglyphics thus first put forward by Dr. Wright has now been very generally accepted, and the aim of his work is to restore the Hittite Empire to its true position in secular history, and thus to confirm the scattered references to the Hittites in the Bible.

In support of this theory, Dr. Wright has brought forward a large amount of evidence in outline, and he has also placed in evidence the conclusions of many eminent scholars, who in following out different lines of investigation have found themselves confronted by the great Hittite Empire. The whole case is here presented in an intelligible form to the ordinary reader, together with all the material necessary for the prosecution of the subject.

A complete set of the inscriptions, many of them revised in the light of wider experience by Professor Sayce and Mr. Rylands, has been reproduced as perfect as they are ever likely to be. A map is also given on which places associated with the Hittites are marked, and also the sites where the inscriptions have been found.

An important item in the book is an article on the decipherment of the inscriptions written by Professor Sayce. It is the greatest advance yet made inthe interpretation of this ancient script, and may yet stand as an important landmark in the history of decipherment.

The book is beautifully got up, and will be welcomed by all who feel an interest in the subject.

In the January number of the *Quarterly Statement* we hope to publish a paper by Sir Charles Warren, giving an account of the Arabs of the Desert, met with by himself in the course of his search after Professor Palmer's

murderers. An important communication may be expected from Mr. Laurence Oliphant. We are also offered during the course of the year papers by Captain Conder, Mr. Boscawen, and others.

The Palestine Pilgrims' Text Society are now issuing their first "Pilgrim." It is the Journey of Antoninus Martyr, with an introduction and notes by Sir Charles Wilson. It has been arranged to have a map showing the route taken by each Pilgrim. The next tractate will be the Journey of Sancta Paula, who will be shortly followed by the Bordeaux Pilgrim, and next, by a translation of the Norman-French Description of the City of Jerusalem.

The income of the Society, from June 26th to September 26th, 1884, inclusive, was £743 8*s.* 8*d.* On October 6th the balance in the Banks was £260 18*s.* 6*d.*

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The following gentlemen have joined the General Committee of the Society:—

Lord Rollo.
Sir Richard Temple.
Sir William Muir.
Professor Hudleston.
Professor Hull.
Mr. George Burns.
Mr. John Robinson, of Westwood Hall, Leeds.
Mr. A. H. Heywood.
Rev. Professor Milligan, D.D.
Mr. H. S. Perry.
Rev. W. F. Creeny.
Rev. H. G. Tomkins.
Rev. Professor Hort, D.D.
Rev. F. E. Wigram.

MAJOR KITCHENER'S REPORT.

On the 10th of November, 1883, the party left Suez for the camp at 'Ayûn Mûsa. I was able to compare chronometers at the Eastern Telegraph ship on the way out of the harbour.

The small oasis called the Ayûn Mûsa has been fully described in guide books, and Baedeker gives an enlarged plan of the locality with the heights of the springs in detail.

The place consists of a few springs of limpid but brackish water, small pools with gardens of palms and tamarisks around them, as well as beds of vegetables and culinary herbs.

These gardens are kept by a Frenchman and some Arabs, who have provided summer-houses for the convenience of those who resort thither from Suez to enjoy the fresh desert air.

They form the market gardens from which the vegetable supply of Suez is principally drawn. There exists also a solitary pool upon the top of a neighbouring hill of sand, having one single palm beside it.

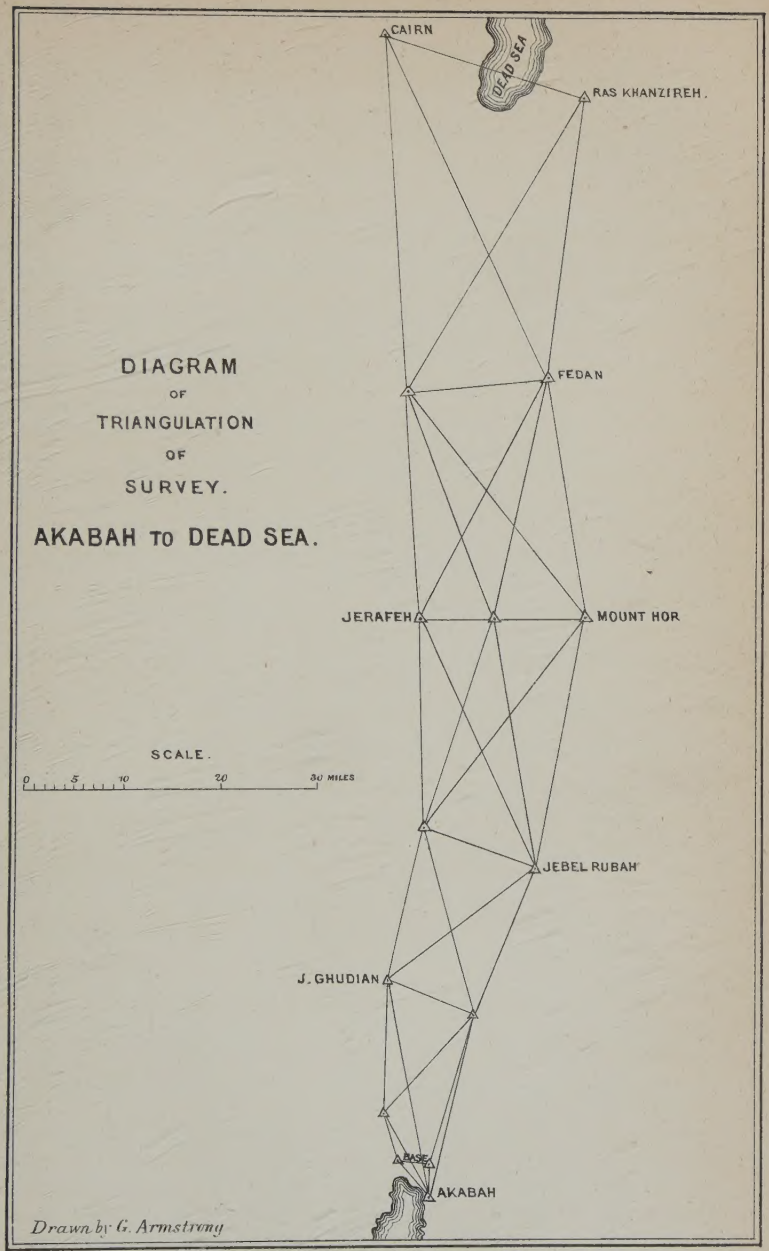
While camped there I went over my stores and instruments, and took some astronomical observations to see that all were in proper order for the start.

On the 12th November, camp was moved to Wâdy Sudur; the route was over an open plain by the sea-shore with a line of cliffs supporting the Tîh plateau, about ten miles to the east. Torrents from these cliffs had covered the ground in many places with rocks and boulders. These torrents are extremely short-lived, coming down in force when any rain falls, and drying up almost as quickly. When it ceases, they spread themselves over the plain in many shallow channels, covering a large area with stones and *débris*. One had come down Wâdy Sudur about ten days before, and the traces of wet mud, &c., were still visible over the plain. This wâdy has become famous for the tragedy enacted in August, 1882, when Professor Palmer, Captain Gill, and Lieutenant Charrington were murdered here.

I obtained from an Arab of the Haiwat tribe a story of the murder which I have never seen published in any account of it. I give it merely for what it is worth: Arabs, as everybody knows who has had to do with them, have a remarkable facility for making up a story to meet a supposed occasion.

This was the story in the Arab's own words:—

"Arabi Pashi, directed by the Evil One—may he never rest in peace!—sent to his lordship the Governor of Nakhl to tell him that he had utterly destroyed all the Christian ships of war at Alexandria and Suez; also that he had destroyed their houses in the same places, and that the Governor of Nakhl was to take care if he saw any Christians running about in his country, like rats with no holes, that the Arabs were to finish them at once. On hearing this news, a party of Arabs started to loot 'Ayûn Mûsa and Suez. Coming down Wâdy Sudur they met the great Sheikh Abdullah



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and his party; they thought they were the Christians spoken of by Arabi Pasha, running away, so they surrounded them in the wâdy. But the Arabs ran away from the English, who defended themselves in the wâdy; all night they stopped round them, but did not dare to take them till just at dawn, when they made a rush on them from every side and seized them all.

"The Arab Sheikh, who had come with the party, ran away with the money. The Arabs did not know Sheikh Abdullah, and did not believe his statement, and when he offered money, his own Sheikh would not give it, so they believed that the party were running away from Suez, and they finished them there. Afterwards the great Colonel came and caught them, and they were finished at Zag ez Zig. May their graves be defiled!"

Such is the story I heard, and there seems to me to be some amount of truth in it.

Colonel Sir Charles Warren's energetic action in the capture and bringing to justice of the perpetrators of the crime, has created a deep impression, and I consider that the whole peninsula is for foreign travellers now as safe as, if not safer than, it was previously. While on this subject I may mention that I found Professor Palmer's death everywhere regretted deeply by the people, and his memory still warm in the hearts of his Arab friends in the country. Many of them came unsolicited to ask me if I had known him, and to express their sorrow at his loss.

From the length and breadth of Wâdy Sudur I should imagine it must drain a considerable area on the Tîh plateau. The existing maps appeared to me to be wrong after Sinn el Bisher, or Jebel Bisher, as the true scarp appears to recede considerably. I was unable, however, to prove these points, but if a map were made of this part it would probably show considerable variation of the existing plans.

The tract after Wâdy Sudur passes over more rolling country to Wâdy Ghurundel, where we camped for the second night; the wâdy flows between banks, and is of considerable importance, and drains an extensive country broken up by high hills; on the edge of the Tîh scarp there are springs and some trees in the valley.

Wâdy Ghurundel forms the boundary of the Ordnance Survey, so that from this point to Jebel Mûsa the map was complete. I was able to sketch in some features on the border of the finished Survey while passing.

Our route led through Wâdy Humrah, Wâdy Nasb, Wâdy Kamileh, from which Armstrong and I visited the temple at el Sarâbît el Khâdim.

The sandstone columns and tablets are in many cases in an excellent state of preservation, and the hieroglyphics were in many cases almost as sharp and perfect as when first cut; others were very much weathered, some tablets 7 feet 6 inches high, by 2 feet wide, and 1 foot 6 inches thick, and rounded at the top like the Moabite Stone, appeared to me to deserve a better fate than being left to perish from the effects of the weather and the vandalism of the Arabs. Excavations here would, I think, reveal many interesting points connected with the Egyptian occupation of this country at the time of the Exodus. I noticed that the artist had been

inspired by his surroundings ; engraving the Ibex in different positions to form ornamental patterns round the hieroglyphic inscriptions. There were several stations on the surrounding hills where tablets stood, similar to the one described ; but these have been mostly thrown down and broken up.

[The following description of Sarâbît el Khâdim is given by the late Professor Palmer, in his book, "The Desert of the Exodus."

"Although only 700 feet in height, the ascent of Sarâbît el Khâdimis by no means easy.

"A scramble over a rough slide of loose sandstone at the upper end of the valley, a treacherous sloping ledge of rock overhanging an awkward precipice, and a steep ravine which brings into play all one's gymnastic capabilities, leads to an extensive plateau broken up by many deep ravines and rising knolls. On one of the highest of these last is a heap of ruins—hewn sandstone walls, with broken columns, and numerous stelæ, in shape like ordinary English gravestones, standing or scattered at irregular intervals about the place, the whole being surrounded by the *débris* of an outer wall.

"The building consists of two temples, apparently of different dates—one constructed entirely of hewn stones, the other formed by two chambers excavated in the rock at the easternmost end, and having a walled continuation in front. In the largest of these chambers the walls show signs of having been once completely covered with hieroglyphics, though a great portion have now scaled off ; at the upper end is a small niche, probably the altar, beside which is carved a figure in bas-relief. Another niche is seen at the right-hand corner, and in the centre of the chamber is a pillar, cut in the solid rock and covered with hieroglyphics. Some of the hieroglyphics in this cave still bear traces of the paint with which they were formerly ornamented—emerald green inside the characters, with a red and black band above and below.

"The cornice of the wall which forms the continuation of the temple is ornamented with a pretty pattern, and fragments of Egyptian coping lie around the entrance.

"The *stelæ* above mentioned, as well as such of the walls of the building as are still left standing, are also covered with hieroglyphics, and amongst them may be remarked the *cartouches* of many of the earliest Egyptian kings.

"The purpose of these monuments was for a long time enveloped in mystery, but the researches of Professor Lepsius and other learned Egyptologists have shown that they were connected with the working of copper mines in the neighbourhood, and that the temple was probably that in which the miners and their guards worshipped the national gods of Egypt.

"The mines themselves were first rediscovered by Mr. Holland, during a previous visit to the peninsula, and were carefully examined by the Expedition on this occasion ; they exist in great numbers in the neighbourhood of the temple, and several of them contain beautifully executed hieroglyphic tablets.

"From the inscriptions and cartouches found there, it is evident that the mines were in full working order at the time of the Exodus.

"There is another means of access to the ruins of Sarâbît el Khâdim, by a ravine rather higher up the main valley, which involves a less toilsome climb; but as it also necessitates a walk along a narrow sloping ledge of rock, with a terrific precipice beneath, I cannot recommend it to the traveller unless he feels confident in the possession of a sure foot and a steady head.

"The name Sarâbît el Khâdim signifies 'the Heights of the Servant,' and the place is said by the Arabs to have been so called from a black statue, representing a 'servant or slave,' which was removed 'by the French' during their occupation of Egypt. Amongst the ruins we noticed a pedestal, which might have served for the base of such a statue; and I have since seen in the British Museum a beautifully executed female foot, carved in black stone, which formed part of the collection of curiosities found by the late Major Macdonald in this very spot.

"It is not unlikely that amidst the antiquities in the Louvre, the remaining portion of the 'Khâdim' from Sarâbît may yet be found.

"The hieroglyphic inscriptions from Maghârah range from Senefru of the third Egyptian dynasty to Thothmes III, of the eighteenth line; those of Sarâbît el Khâdim end with Rameses IV, of the twentieth, after which period the mines and temples were abandoned. No inscriptions have been discovered at Sarâbît of kings who reigned between Thothmes III and the twelfth dynasty, nor any after the twentieth. They occur rarely and after long intervals after Rameses II.

"One of the principal tablets at Sarâbît el Khâdim refers to a certain Har-ur-ra, superintendent of the mines, who arrived there in the month Phamenoth, in the reign of some monarch not mentioned, probably of the twelfth dynasty. The author of the inscription declares that he never once left the mine; he exhorts the chiefs to go there also, and 'if your faces fail,' says he, 'the goddess Athor will give you her arms to aid you in the work. Behold me, how I tarried there after I had left Egypt,—my face sweated, my blood grew hot, I ordered the workmen daily, and said unto them, there is still turquoise in the mine and the vein will be found in time. And it was so; the vein was found at last, and the mine yielded well. When I came to this land, aided by the king's genii, I began to labour strenuously. The troops came and entirely occupied it, so that none escaped therefrom. My face grew not frightened at the work, I toiled cheerfully; I brought abundance—yea, abundance of turquoise, and obtained yet more by search. I did not miss a single vein.'

"Another inscription runs:—'I came to the mines of my lord, I commenced working the Mafka, or turquoise, at the rate of fifteen men daily. Never was like done in the reign of Senefru the justified.' These and the frequent recurrence of tablets representing the various kings triumphing over and slaying their foreign captives, will enable the reader to judge of the nature of the mines and the manner in which they were worked by their Egyptian discoverers."]

On the morning of the 18th I took observations with the theodolite from Zibb el Baheir (a trigonometrical station of the Ordnance Survey), over the district to the north-east through which we were to pass, also into Jebel el Watiyeh, on the edge of the Ordnance map, which was formed into a trigonometrical station by observing with the theodolite from it, subsequently observing from Jebel Mûsa. I was thus able to fix many points in the country we were about to survey from a very extended base of Ordnance survey work.

On the 22nd November we left the surveyed country at El Watiyeh, and I made a detour by 'Ain el Akhdar, which I was able to fix; the spring is of good water, and is perennial, with a few palms and other trees hidden in the corner of the valley. I then made my way across low-lying hills at the foot of outlying scarp, to the Wâdy Zelakâ, where camp was pitched.

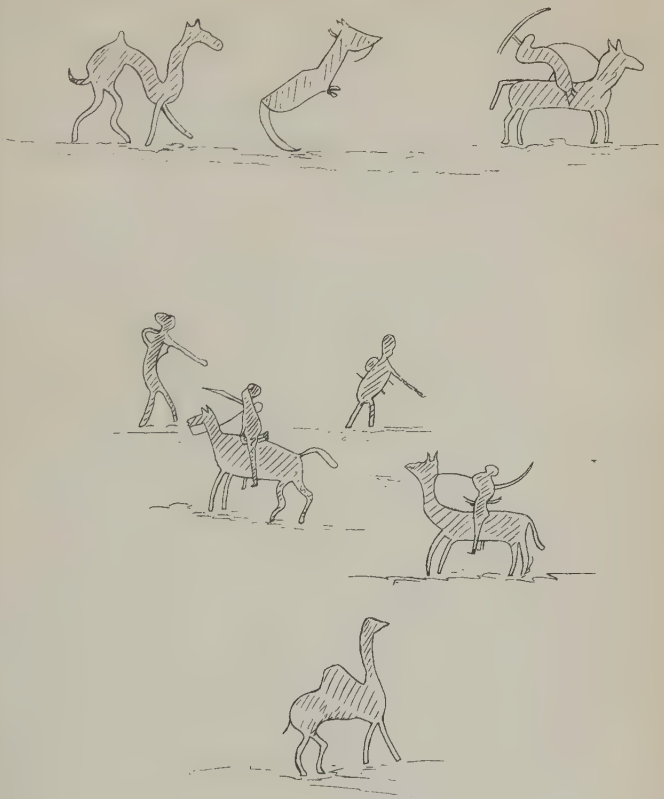
Next day our road led down Wâdy Zelakâ, which bends towards the east, about a mile from the camping ground; and where the bed of the valley opens out Armstrong came across a stone circle almost buried in the sand, the top of the stones only being visible. Striking across to the eastern side of the valley, where a detached piece of rock stands conspicuously out, he found some Arabic inscriptions and a lot of figures, chiefly animals, rather roughly carved out on the face of the rock. The valley, though bounded by steep cliffs, has an open, level, and wide bed, which is one of the principal features of the wâdies in all this region, making the passage of even very mountainous districts easy for animals and even possible for wheeled traffic. No valley of importance joins the wâdy from a continuous line of high hills with cliff, cutting off all communication up that side.

Camp was pitched at the end of this range of hills opposite the broad mouth of Wâdy Biar, where there is an open space with an isolated hill in the centre. Wâdy Abu Tareifeh here comes in from the south-west, joining Wâdy Ughelim from the south, and flows into Wâdy Zelaka; the valley here takes the name of Wâdy Biar, and after a few miles turns to the north at a point where there are some nâwamîs.

These nawâmîs are small round circles of stones, some of them built up into a dome shape, having a small entrance on one side; they are a great deal too small for human dwellings, and they are not, as far as one can judge, tombs. They occur in many places in the peninsula, and are generally in groups; there are usually some traces of ruined walls about. The entrance is not in any particular direction; the stones are small, and have not any appearance of having stood from very remote antiquity. I have never seen the question of their origin satisfactorily explained.

While travelling subsequently through the country to the south-east of Gaza on my way to Ismailia, I noticed the Arabs cultivating the ground extensively; they live, of course, entirely in tents, and the barley they grow is sent in to market, but the chopped straw is made up into numbers of small heaps on the ground and covered with earth, forming little domes exactly like the nawâmîs. There are few stones on the Gaza plain, and

Figures cut on the rock in Wady Zelakâ



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little earth to spare in the wâdies of the peninsula. I would suggest that they are stone houses of the Arabs when they cultivated these wâdies, probably not very long ago. I saw no traces of cultivation now, but there are many places that would repay the labour well; and, as far as I can judge, nawâmîs are usually found not far from some spot of this sort.

The walls in the neighbourhood are the traces of the enclosures round the tents. I know that much has been written about these nawâmîs, but having no books of reference with me I submit this opinion with diffidence.

[The late Professor Palmer, along with Mr. Drake, visited these nawâmîs and groups of many others, and gives the following remarks in his book, "The Desert of the Exodus."

Professor Palmer thus describes them :—

"Shortly after passing 'Ain el 'Elyâ (Râs el 'Ain) we came to a group of nawâmîs, those quaint beehive huts of which I have before spoken.

"They stood on the hills to the east of the wâdy, and were more perfectly preserved than any which we had hitherto seen in the peninsula.

"They consisted of two detached houses, on separate hills, and a group of five on the side of a higher eminence. The first two had been used as Arab burial-places; but of the second group at least three out of the five were apparently untouched.

"Their dimensions average 7 feet high by 8 feet in diameter inside. They were circular, with an oval top, the construction being precisely the same as that of the nawâmîs in Wâdy Hebrân, but the perfect condition in which they have been preserved exhibits in a much more striking degree the neatness and art of their builders. In the centre of each was a cist, and beside that a smaller hole, both roughly lined with stones; these were covered with slabs of stone, over which earth had accumulated.

"Some human bones which we found in the cist at first led us to the conclusion that they were tombs; but the small size of the cist, and the evident fact that they had never contained perfect skeletons, proved the idea to be erroneous. In the smaller cist the earth showed signs of having undergone the action of fire, and, in one or two, small pieces of charred bone and wood were found. The doors, which are about 2 feet square, are admirably constructed, with lintel and doorposts. All the stones used in the construction are so carefully selected as almost to give the appearance of being hewn, and those in some of the doors have certainly been worked, if not with any instrument, at least by being rubbed smooth with other stones.

"A flint arrow-head and some small shells were found in one of the nawâmîs. They are evidently dwelling-houses; but I must leave to those who are better versed than I am in the science of prehistoric man the task of determining to what race they once belonged; the remains are certainly some of the most interesting which I have met with in the East. The country all around is covered with them, every hillside having some remains of nawâmîs upon it; but, owing to their exposed position, they

have none of them been preserved in so perfect a state as those just described. Close by the nawâmîs were some stone circles. There would seem to have been a large settlement of these people in the neighbourhood of 'Ain el 'Elyâ.

"The word nâmûs is not known beyond Sinai, the Arabs in other parts of the desert calling them merely gusûr, or castles."]

After three miles the valley turns again abruptly to the east, and at the corner are the important springs of Râs el 'Ain (called 'Ain el 'Elya by Professor Palmer), surrounded by palm-trees ; the water is good and plentiful, forming a small stream running towards a narrow passage (Es Sûk) in the granite hills ; this does not at all prepare the traveller for the grand gorge he has a few steps ahead of him. On entering Es Sûk the cliffs close in on both sides, forming every combination of turn and bend, and running up to about 800 feet with sheer precipitous sides ; every turn increases the height and grandeur of the gorge, while the small stream keeps the place cool and green with many plants and shrubs. Careful traversing had to be adopted through the gorge, which extends four miles.

Camp was pitched beyond the gorge, where another spring occurs called Ain el Akari, watering a small patch of reeds and palms. I had to observe from several high points on either side of the gorge in order to carry on the continuity of my observations.

On the 26th camp was moved. After passing through narrow valleys surrounded by granite hills, the road emerged opposite Jebel 'Aradeh, a high mountain of white limestone, which had to be ascended for observation. In the open portion of the valley there is a well of good water, having a perennial supply, called Bir es Saura : it occurs in a small cave. This well was said to belong to the Terabin tribe of Arabs, but I could not find out that any of them ever came here, and it is certainly detached from their main possessions to the north and west of Nakhl.

The broad valley up which we travelled changes its name frequently as it passes each locality : thus in a few hours it becomes Wâdy 'Aradeh near the Jebel 'Aradeh, Wâdy 'Attiyeh opposite the tomb of the Sheikh of that name, and Wâdy Herteh at Jebel Herteh where we camped.

To the west of Wâdy Herteh the country is much broken up by small hills and valleys. The valley itself is large and open. After bending to the east and passing between some hills it again changes its name and becomes Wâdy el Hessy, which name it retains to its source. There is a small well in Wâdy Hessy, called 'Ain Hamâti, with a scanty supply of water.

The route continues in Wâdy Hessy, which gradually opens out on to an extensive plain ; crossing the plain to the north the watershed is reached : it is formed of low hills with a descent of a few hundred feet to a lower plain on the north. On the west is the range of hills called Turf er Rukm, running out into the plain as far as the Haj road, ending in abrupt cliffs. A broad valley leads away to the north called Wâdy Shiah, joining eventually the Wâdy Jerafeh, and thus falling into Wâdy 'Arabah and the Dead Sea. To the east of this valley are the granite hills of Jebel Humra

jutting up in innumerable sharp peaks. The Derb el Haj runs immediately south of the Jebel Humra, through an open plain which is bounded on the south by a line of cliffs running east from the watershed. We passed along the plain and camped above the Nukb, or descent to the Gulf of 'Akabah.

The Derb el Haj descends about 2,000 feet to the plain of 'Akabah, by a carefully constructed road; the rock had to be considerably excavated in places, and bridges span the watercourses when necessary. A carriage could be driven down the descent without much risk; the road winds down a steep hillside for the first mile, and then descends by a valley through granite hills to the plain below. Before descending I had to make a long detour in order to obtain a good station to observe from, and I was fortunate in finding a point from which I had a splendid view of the Wâdy 'Arabah, which became afterwards one of my trigonometrical stations when passing up the valley.

The Admiralty Survey does not correctly give the form of the head of the bay, which is not so pointed as shown. At the lowest part of the valley the soil is soft and loamy; the remainder of the broad bed is sand and *débris* from the hills.

The castle of 'Akabah is an extensive but ruined building situated close by the sea-shore on the eastern side of the bay, and is surrounded by a few wretched hovels and extensive groves of palm-trees along the shore. It is the abode of an Egyptian Governor, who has a few soldiers at his disposal, and is considered an important station on the Egyptian Haj road. There is practically no trade in the place, as ships never come there. The bay contains sharks and numerous other fish.

'AKABAH TO THE DEAD SEA.

The party had to remain three days at 'Akabah, while arrangements were being made with Sheikh Muhammed Ibn Jad, of the 'Allawîn Arab tribe, to take us up the Wâdy 'Arabah.

During this period I was fully occupied measuring a base line on the plain and starting the triangulation of the valley. I was also able to survey some portion of the shore line and hills about 'Akabah, which were not correctly laid down on the Admiralty plan. I measured the base line completely across the valley: its length was 233·86 chains. A point close to the castle of 'Akabah was observed for the vertical angles, and the system employed for extending the triangulation up the valley can best be seen from the attached diagram of triangulation. The Sheikh Muhammed Ibn Jad declared that he could only take us as far as Petra, and that from there we should be obliged to strike across country to Gaza.

On the 3rd December we left 'Akabah, shortly followed by another party, who had been sent out by some company to ascertain the height of the watershed above the sea, by a line of levels from 'Akabah.

About a mile from the north-east corner of the bay Armstrong observed a number of small mounds similar to what are usually found on old sites;

fragments of pottery of various colours are found, and an old wall of masonry is seen cropping out here and there.

The general features of the valley are well known. On the east are the bold granite mountains of Midian, intersected by valleys that have thrown out a mass of *débris* into the main valley, forming a semicircular fan-like ramp up to the mouth of each wâdy ; these are very marked, and when seen from the opposite side of the valley have a very curious effect.

On the west limestone cliffs form a continuous scarp, broken at places and intersected by granite upheavals ; very few important wâdies join the valley on this side, although there are naturally many small ones from the scarp itself. Camp was pitched near Ed Deffieh, some brackish pools of water in the muddy slime that formed the lower portion of the valley ; some rain that had fallen while we were at 'Akabah increased the difficulty of passing this sticky mud.

Next day we passed Wâdy el Mânei'aieh, flowing from the west, and forming a picturesque recess in the scarp of the western side of the valley, with a granite outbreak closing the entrance. The limestone scarp then continues regularly. I had to visit a high prominent point upon it, to take observations, and from here for the first time I saw and observed into Mount Hor. The ascent of the scarp was a stiff climb of 1,500 feet.

Camp was pitched near the border of the marsh of Et Tâbâ.

Et Tâbâ is a considerable marsh of mud and rushes, extending the whole width of the bed of the valley. There is a passage round it on either side ; the western one leads by 'Ain Ghudian, while the eastern road passes 'Ain Tâbâ, where there are palm-trees, and pools of water and reeds ; to the north of the marsh begin the blown sand dunes with a few scattered palms.

At the north-west extremity of the marsh a spur runs out from the western scarp for three miles, and under it is the 'Ain Ghudian ; there is a pool of water, and several wells giving a plentiful supply of good water.

I found the foundations of a rectangular building, about 20 yards square ; there were also tracks of ancient lines of wells converging from the hills on to the 'Ain, and an Arab graveyard that has been noted before. I saw no traces of a Roman road.

To the north of 'Ain el Ghudian the centre of the valley is choked with sand, leaving a passage on either side.

The hills on the east decrease in height, giving place to limestone and sandstone hills, joining a high range in the background called Jebel Serbal ; the scarp on the western side continues regularly with no wâdies of importance breaking through ; there are several minor valleys. Camp was pitched at the mouth of one of those, called Wâdy Galaita.

Next day I had again to ascend to the top of a prominent point on the western scarp near Wâdy el Beiyaneh, from which a good round of angles were observed ; just below the point there appeared to be a small water-shed ; the water channel from the eastern side comes across the valley and flows to the south down the western side, while the valleys from the hill I was on appeared to me to flow north ; it was so late and dark when I got

down from the point I was on, that I was not able to examine this point as closely as I should have liked, but my impression was that there is a small depression in the valley here which does not drain south, unless when a considerable flow of water from the north filled the depression, causing the water to overflow.

The western scarp falls away after the high point near Wâdy Beiyaneh, forming low rolling hills with large openings, through one of which the main road turns westward over the lowest portion of the watershed.

Camp was pitched in the centre of the valley, at the mouth of Wâdy Heyirim, four miles south-east of the lowest point of the watershed.

To the south-east of the camp Wâdy Ghurundul joins the Wâdy Arabah ; this valley breaks through a narrow and romantic gorge, and has a good supply of water at 'Ain Ghurundul, situated some distance up the valley.

Next day I made an excursion to the west, surveying the low hills and the lowest portion of the watershed, which is on an open plain dividing Wâdy 'Arabah from Wâdy Jerafeh, flowing north from a south-westerly direction after the opening to the low watershed. A low line of cliffs running north-north-east commences on the western side of Wâdy 'Arabah, separating it completely from the Wâdy Jerafeh ; I walked along these hills, called Er Rishy, until I reached the watershed of the main valley at the mouth of Wâdy Huwer, flowing from the east. This watershed is 320 feet higher than the other, and is the commencement of the great valley flowing south up which we had come.

The watershed is curiously formed—just at the mouth of this wâdy, part of the waters of which run north and part south. Those running north are joined by several wâdies from the Mount Hor range, and after passing the end of the low range of hills separating the valley here in an easterly direction, join the big valley of Wâdy Jerafeh or Wâdy el Jeib.

Armstrong found a ruined building in the valley. It measured 102 feet square, with well-cut drafted masonry. The building did not appear to date prior to Saracenic times—very probably one of the old road stations on the highway to 'Akabah.

Camp was pitched in Wâdy Abu Rusheibeh.

The eastern hills here recede, leaving a sort of amphitheatre in front of Jebel Harûn, the Mount Hor of Scripture, which rises magnificently in the centre. There is a mountain of white limestone immediately south of Mount Hor, over which it towers and gains by the contrast of its dark red hue over the white. Looking thus at Mount Hor from the south it appears to rise in several pinnacles, the highest of which is surrounded by a glistening white dome covering the tomb of the patriarch Aaron.

The scenery is exceptionally fine, and I do not consider former writers have exaggerated the grand appearance of Mount Hor ; the brilliant colours of the rocks have been remarked by all travellers, but surpassed what I expected to find.

As I had been observing into the dome of Mount Hor for some time I was very anxious to complete my observations by obtaining a round of

angles from there. Next morning therefore an attempt was made to go up without warning the Arabs, as had been done by Palmer and Drake; but this was frustrated, as I expected, by the Arabs having heard of our coming, and being on the alert. Two parties of our size travelling up Wâdy 'Arabah cannot do so without being remarked and making a sensation. We, however, penetrated up the valley leading to Petra for some distance, and noticed remains of terraces and some buildings on the slope.

We camped at the mouth of the wâdy that evening, and next morning was spent in discussion with the Arabs as to the amount for which they would take us to Mount Hor and Petra. As we could not come to terms, camp was moved in the afternoon towards the Wâdy 'Arabah and pitched in Wâdy Harûn. The Arabs then gave way and acceded to the terms we had stipulated for. Next morning we started before daylight and returned to the ruins we had visited before; from thence we ascended by a steep zig-zag path to a saddle on the Mount Hor range. Passing along a slightly descending ridge we soon came to the base of a mountain rising from the ridge: this is Mount Hor, being actually from this side a mountain on a mountain, though, from the north the descent is much more precipitous to a far lower level. Unfortunately, the morning was exceptionally hazy, so that it was difficult to distinguish surrounding features.

An old path, similar to that on Jebel Mûsa, with worn steps made out of boulders at difficult parts, led up the mountain to another level space or platform, from which the highest peak rises abruptly. Passing over some ruined arches on an ancient cistern or building, the path leads up steeply by steps cut out of the rock itself to the summit, where there is the usual little round dome on a square building covering the tomb of the patriarch Aaron. Looking inside, one saw the usual carpet covered cenotaph, with some ostrich eggs hanging over it—all in an uncared-for condition. We had to wait some hours on the summit owing to the mist which hung in dense clouds about us until 12 o'clock, when it partially cleared, and I was able to take some observations which were necessary for extending the triangulation to the north. After observing, we made our way rapidly down to Petra, and were able to visit the ruins and the more important tombs. There was no time to make a thorough investigation, but I was able to verify the accuracy of Laborde's plan of the place, and was much struck with the stupendous works in rock-cutting that had been undertaken and executed with the nicest accuracy; also with the immense number of tombs, the ornamentations being as fresh and clear as when first cut, particularly those at Pharaoh's treasures. The colours of the rocks are wonderfully variegated, and most brilliant; red to purple and blue are the most predominant colours, and these are set off by a cold grey background of limestone hills.

The ruins and tombs would doubtless well repay a thorough investigation.

It was dark when we got to the pas we had come up at dawn in the morning, and we reached camp about 9 P.M. after a long day.

Arrangements having been made with the Sheikh of our party to take

us to the Dead Sea next morning, we started down the eastern side of Wâdy 'Arabah instead of crossing to the opposite side, as we should have done had our original route to Gaza been maintained.

I went across myself in order to take observations from the other side of the valley, as well as to survey the detail. The valley is here about ten miles broad; the main water channel runs down the western side, and takes the name of Wâdy el Jeib with the main course alongside.

The hills on the western side are low, and much weathered, being of a soft, easily disintegrated limestone. It was late when I found the camp on the eastern side of the valley, and under the circumstances of camp moving continuously along the eastern side of the valley, I was compelled to give up attempting to do the western side, as it was quite beyond the power of myself and camel. I regret therefore that there is here an unsurveyed gap in the work.

Camp was moved next day to 'Ayûn Abu Werideh, or Buweirdeh; it was impossible to find out the exact name, as the Arabs themselves were divided on the subject. I am inclined to think Buweirdeh is the correct name. It is almost impossible to collect the correct nomenclature when travelling so rapidly through a country, with Arabs from a different district, and though I took every means in my power to determine the names definitely, I am not at all confident that in all cases I have obtained the correct names, or nearly as many as might be collected by a more prolonged visit to the neighbourhood. A good deal of blown sand from sand dunes in the valley lead up to the springs which break out in several places from some soft loamy soil in the valley, and form several small streams full of reeds, tamarisk, bushes, and palms, &c.; the water is slightly brackish.

Near the springs Armstrong observed terraces of an old town of considerable extent. There are numerous little mounds of artificial appearance; fragments of coloured pottery abound. The foundation of a building is seen, the stones having a very old and time-worn look, and portions of an aqueduct, level with the ground, are traceable from one of the springs leading to the site.

Next day I was able to obtain good observations from Samrat ez Feidan, from which the Lisan in the Dead Sea was clearly visible.

A considerable perennial stream of water runs down Wâdy Feidan, only losing itself when the valley opens on the plain of Wâdy 'Arabah. Doubtless the plain east of Jebel Feidan was a most fertile garden in former times, and it would take very little to make it so again. I have rarely seen a spot more suitable for every sort of culture, yet it is now a barren waste, and until the Arabs of this country are placed under some control it doubtless must remain so. The wooded mountains to the east about the ancient Dhana form a picturesque background; the ruins of this town, I was informed, were as interesting as those at Petra, with carving in rocks, &c.

Camp was pitched near the mouth of Wâdy Guweibeh, and I was extremely glad to find that a day's halt was to be made in this locality.

Next day, by starting early, I was able to visit the western side of the valley, a distance of twelve-and-a-half miles; I observed with theodolite from a trigonometrical station on the hills beyond Wâdy Jeib, and was able to take up the survey again on that side, thus making the gap unsurveyed as small as possible. Owing to the want of knowledge of the locality by my guide, I was unable to visit 'Ain Aeibeh, which I had much wished to do.

Armstrong explored the country towards the east, and found, six miles north-east of Feidan, the ruins of a small town in a valley, surrounded by bold and precipitous cliffs; the ruined walls are from a foot to 3 feet high, the stones roughly squared, and of no great size; some black heaps resembling slag heaps point out that very probably ancient mines may be found in the neighbourhood. A path leads from Wâdy 'Arabah to this valley, crossing the watershed into Wâdy Ghuweir, where it joins, leading up the valley in a south-easterly direction, a beaten and well-worn track: this was probably the pilgrimage road from Gaza to Mecca. Lower down in the wâdy (Wâdy Ghuweir) are numerous springs of sweet water trickling out of the bed of the wâdy; and in a narrow gorge the rocks are literally covered with Bedouin tribe marks, Arabic inscriptions, &c., the work of pilgrims on their way to Mecca.

Next day was unfortunately extremely hazy, and for the three following days it was impossible to distinguish the western side of the valley at all.

We were not able to proceed a full day's march owing to the intrigues of the Arabs.

Camp was pitched at Ed Debbeh close to the descent to the ghôr. We passed a large ruined tank and remains of several buildings at the mouth of the Wâdy Utlah; these remains appeared to me to be of no great antiquity, and to date from after Crusading times. There is little doubt that all the eastern side of the valley was once a most fertile district, the streams of water in each valley being used to irrigate gardens and extensive cultivation, instead of running to waste on the hillsides, as shown by the remains of terraces which still exist almost perfect in many cases.

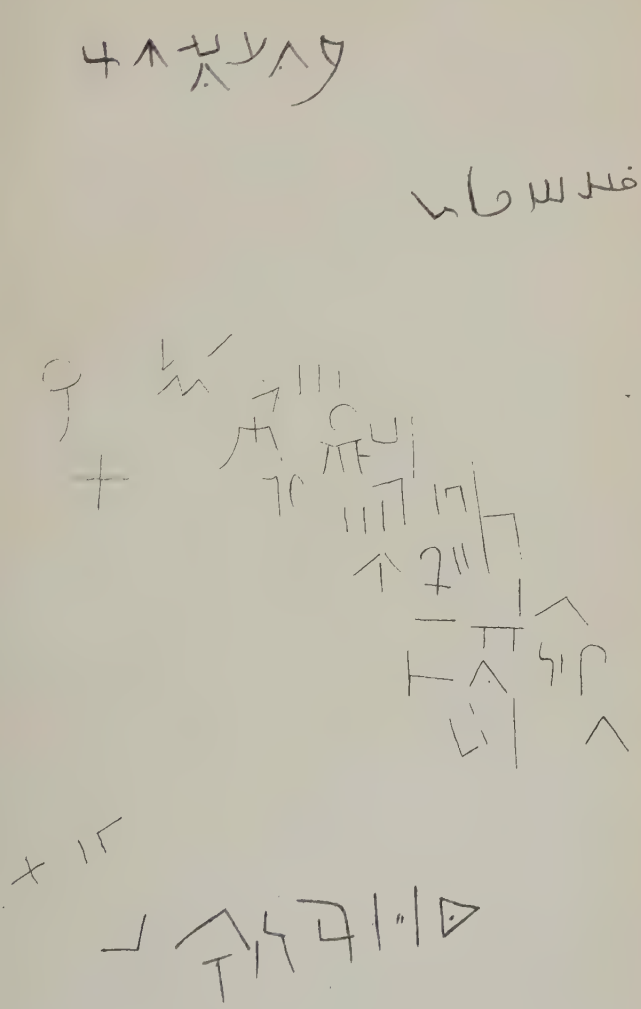
I heard many stories of the ruins and interesting country that lie to the east, which formed the ancient land of Edom, and I was frequently told that Wâdy Mûsa or Petra is not the most extensive ruin in that district.

The descent to the ghôr was down a sandy slope of 300 feet, and the change of climate was most marked, from the sandy desert to masses of tangled vegetation with streams of water running in all directions, birds fluttering from every tree, the whole country alive with life: nowhere have I seen so great and sudden a contrast.

The principal Sheikh of the Huweitât Bedouins, Sheikh 'Arâr, was camped close to the bottom of the descent, and he came out with some mounted men to meet us.

The country ruled over by Sheikh 'Arâr includes nearly the whole of ancient Edom, from Jebel Serbal to the ghôr where the Bedouins were camped; he is chief of the Bedouins who do not cultivate the ground. There are also several other small tribes of fellahin Arabs who cultivate the ground, and also acknowledge him as their chief; these fellahin are more

Example of Bedouin tribe Marks and Arabic Inscriptions in Wâdy Ghuweir.



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difficult to deal with than the Arabs themselves, having no law, and acknowledging no government. The only way to deal with them would be through Sheikh 'Arâr, who is a very respectable Sheikh, and to whom they have to pay tribute. The 'Allawîn Arabs under Sheikh Muhammed Ibn Jad rule the country to the south of Jebel Serbal and to the east of the Wâdy 'Arabah ; they are closely allied to the Huweitât Arabs, and originally they say they were all one tribe. Even now the 'Allawin call themselves sometimes Huweitât ; they are under the Egyptian Government, and are employed to protect the Haj road south of 'Akabah. Another branch of the same Arabs is the important tribe of Egyptian Huweitâts under Sheikh Ibrahim Ibn Shedid, whose influence extends over the tribes as far as 'Akabah.

These three Sheikhs rule over a very vast country ; they are closely related by marriage, as the Arab Sheikh is very particular that his wife should be of noble blood, *i.e.*, of the family of the Sheikhs. They also recognise that they were originally of one tribe, although they are now completely independent of one another.

The next most important tribe is the Ma'azi Arabs ; they rule over the mountains of Kerak, which they are said to have taken from Sheikh 'Arâr's Huweitât tribe. They say they are very numerous in the far East, and the three sections of the Huweitât all complain of the pushing nature of the Ma'azi on their frontiers. There is a large settlement of Ma'azi Arabs in Egypt, extending from Suez southwards along the Red Sea shore as far as Kosseir.

These Arabs everywhere have a bad character for thieving ; they are divided up under numerous Sheikhs, and are continually making raids on the Arab tribes round them ; they are generally very poor.

The only other two tribes of importance in this region are the Terabîn and the Taiyâhah ; the latter are divided into two sections, the Taiyâhah and the Azazimeh. For many years the south country has been in a disturbed state, owing to the war going on between these two tribes ; the dispute was about the boundary of the tribe lands near Bîr es Seba. Peace has now been obtained by the internal divisions of the Taiyâhah, a portion of whom have gone over to the Terabîn, the remainder having no heart to continue the conflict, although it may break out at any time.

The Taiyâhah have no friends or allies in any of the tribes around them, and have a feud with the great Huweitât family. The Terabîn, on the contrary, are at peace with their other neighbours ; they cultivate the ground extensively about Gaza, and are closely allied to the Huweitât of Egypt. They bear a good character, and are a rich tribe.

The Terabîn rule the western portion of the south country, the Taiyâhah having the eastern portion as far as Wâdy 'Arabah.

The Haiwât are a small tribe occupying the country about the Haj road ; they are ruled by Sheikh el 'Ayân Mismeh, who has his camp generally about Bîr etu Therned. Men of this tribe were the principal actors in the murder of Professor Palmer and his companions ; they are a poor tribe, under the influence of Sheikh Shedid of Egypt.

Camp was pitched in the Ghur el Feifeh, near Wâdy Tufihel, and next day we moved on to the Ghôr es Safieh, where the Ghuwarneh were encamped. These are a wretched race of fellahin, who cultivate the Ghôr es Safieh, and are pillaged by the Huweitât from the south, the Ma'azi from the east, and the Taiyâhah from the west. They are the same race as those that occupy the ghôr at Jericho.

They were actually engaged in ploughing up their ground, which is well watered by the streams from Wâdy Safieh. Notwithstanding the constant blackmail they have to pay to different tribes they seemed to be well to do, and I believe make a good deal in trading with the Bedouins in barley, wheat, beans, &c. Owing to various causes we were obliged to stay in the Ghôr es Safieh until the 27th December.

The south end of the Dead Sea is formed of extensive mud flats of a very slimy character. The recent rains had doubtless contributed to the soft state of the mud, but the natives told me it was never hard. It was almost impossible to reach the edge of the water of the Dead Sea through the mud. A line of driftwood had been thrown up a considerable distance inland, forming a shore line almost half-a-mile south of the water's edge.

I found it was quite impossible to measure a base line through this slime, and the dense vegetation of the ghôr left no open space available. After several attempts I was obliged to relinquish the idea ; this I regretted very much, as I found the portion of the Dead Sea to the south of the Lisan had been very inaccurately delineated on previous maps, and the Lisan itself had to be moved considerably, as will be seen on the plans.

I took several observations into the trigonometrical station on our old survey of Palestine, and was able to connect my triangulation up the Wâdy 'Arabah from 'Akabah in this way with very satisfactory results. The diagram of triangulation and plans will show the observations that were taken, and how the connection was established principally through the observations subsequently taken from a cairn on Râs Zuiweirah.

Overlooking the ghôr on the eastern side, just above the ruins of some modern mills at Kusr Sh. Ali, Mr. H. C. Hart, in his botanical rambles, found some very interesting ancient remains at a place called Khurbet Labrush. These remains consisted of a large number of nawâmîs, some of which were in a wonderfully perfect state of preservation. These nawâmîs are dotted about thickly over the site without any plan, and the openings in them having no especial direction ; a few loose stone walls near some of them have the appearance of having been thrown up recently round tents. Enclosing the greater number of these nawâmîs is an ancient wall following the contour of the hill for a quarter of a mile ; only the foundations remain, but they were of massive undressed masonry, of apparently remote antiquity. Inside the wall there are the ruins of an oblong building of similar masonry, very probably an ancient temple ; unfortunately the remains are so ruined that it is impossible without considerable labour to thoroughly explore or measure this monument : only one corner could be determined, the remainder being covered by heaps of massive stone blocks.

There are several other heaps of ruins and large cairns of stones inside

SKETCH PLAN
of
KH. LABRUSH
& NAWÂMÎS.
Ruins
Kusr sh. Ali
Wady el Hessi
Kh. Labrush
Nawâmîs
TOWER
Pathway
Scale
0 100 200 400 600 800 1000 1200 1400 1600 yds.
G.A. del.
B. Weller

the enclosure, but these are all detached and do not appear to be the remains of a town. I could see no extensive remains of buildings such as are found in ancient sites in Palestine.

The wall ran nearly north and south, and at the southern end there are the remains of what was probably a tower ; traces of the wall can then be seen following the hillside for a considerable distance, and enclosing the hill. The nawâmîs are not all inside the wall, and appear to me to be of more recent construction. An apparently old roadway leads through the ruins, and crossing a saddle of the hills leads up to the high hills on the east.

The remains appear to me to be those of a very ancient site subsequently used by the Arabs as a camping ground. I could find out nothing from the Arabs about these remains, though they are well known.

The view from here over the gorge of Es Safieh to the north is a very fine ; the various and brilliant colours of the rocks are most marked ; cliffs of a bright rose colour line the stream, alternating with yellow, dark red, and purple.

The ruins in the Ghôr es Safieh appear to be all modern ; there is a large reservoir and several ruined mills, all of Arab construction.

A track across the mud flats leads to the base of Jebel Usdum, the mountain of salt, on the western side of the valley. I found that this mountain had to be considerably altered in shape and position to what it has been shown on existing maps. It is almost detached from the surrounding hills, and descends abruptly in cliffs to the Dead Sea shore. It reaches a height of 600 feet above the Dead Sea, and is broken and cracked by many fissures. All round the ghôr there is a border of the same marly hills, more or less washed away, and extending for some distance up the valleys.

On the 27th December we passed round the Jebel Usdum by the seashore and followed a road leading up the Wâdy Zuweirah. The road leads up a winding ravine in the bare limestone hills that extend all along the west side of the Dead Sea.

A picturesque Saracenic castle, now in ruins, is perched on an isolated hill in the centre of the valley, defending the pass from an enemy advancing from the east.

An ingenious loophole has been cut in the rocks on the opposite side of the valley in advance of the castle, from which the valley is entirely commanded.

After the castle the road ascends steeply by zigzags to a pass, after which the country is more level, but continues to ascend as far as Râs Zuweirah.

Camp was pitched after dark in Wâdy el 'Abd, where there is a small supply of water. The water supply in these wells is very limited.

Next morning I was able to obtain a valuable round of observations from the cairn on Râs Zuweirah, at the top of the ascent. The cairn itself was apparently a very ancient landmark or tumulus, and is seen prominently from all the country round.

Passing over some rolling hills through very open country, with a few ruins distinctly marked by the verdure around them, we encamped on the edge of our former surveyed work at Tell el Milh. The following day we marched to Bîr es Seba, and from there to Tell abu Hareirah, all in the published Map of Palestine.

At the latter place I left the party, and with four Arabs of the Egyptian tribe struck across country by a southern road to Ismailia. The rest of the party proceeded to Gaza.

I was greatly assisted in my work by Mr. George Armstrong, late Serjeant-Major R.E. who has had a vast amount of experience in surveying in the East for the Palestine Exploration Fund, and without his aid I should not have been able to arrive at nearly as satisfactory results on this expedition.

The means of surveying adopted was, 1st: In the Mount Sinai work taking a broad base over twenty miles long on Sir Charles Wilson's surveyed country; positions were fixed by observation, and a chain of observations were kept through to 'Akabah.

2nd. At 'Akabah a base line was measured, and the former work connected with it. A triangulation was then extended up the Wâdy 'Arabah until, at Râs Zuweirah and Kusr Sh. Ali, it joins on to the old triangulation of Palestine proper.

The attached diagram of triangulation will show the number of points observed.

The plans will show full details of the work done. Heights were obtained up the Wâdy 'Arabah by vertical angles.

The total area triangulated and surveyed in the above manner in the two months employed is roughly 3,000 square miles.

Owing to the rapid passage of the party through the country, and the impossibility of getting guides with local knowledge, the names are not, in my opinion, in every case reliable, although I took every opportunity to check them by local information as much as possible. Many more names could also be collected by a more lengthy stay in the country.

I had the names written down in Arabic, so that the spelling is as correct as possible; but I have reason to believe the localities were not always correctly shown.

TELL ABU HAREIRAH TO ISMAILIA.

On the 31st December I left Tell abu Hareirah with four Arabs of the Huweitât tribe of Egypt that had been sent to us at the Dead Sea with a letter from Sir E. Baring describing the disasters in the Soudan.

The rest of the party went on to Gaza to undergo quarantine.

As the El Arish road was well known, I determined to march direct on Ismailia, thus striking out a new line, and passing through much more interesting country. One of my party, Abu Suweilim, had been employed by Sir C. Warren in hunting the murderers of Professor Palmer, and was one of the most energetic useful Arabs I have ever met: he had

been the road we were about to take fifteen years before; the others did not know the road at all, and were of the usual Bedouin type, lazy and greedy.

Passing over a plain of cultivated ground, with numerous Arab tents, the inhabitants of which were busily employed in ploughing, and which had been already surveyed about one o'clock, I came to Wâdy Fara; this is a large and deeply cut wâdy, and contained a good deal of water. Just below the crossing there is a prominent mound called Tell el Fara, and before descending there are some traces of ruins and foundations of buildings called Kh. el Fara, but nothing of importance was left. An hour beyond the valley is a well-known tent called El Khudra, where for the last ten years a merchant from Gaza has traded with the Arab tribes, and doubtless does a good business, as many of the Arabs dare not show themselves in Gaza. The trader was a Bulgarian, and was so delighted at hearing his native tongue spoken that he would take no pay for the provisions of coffee, dates, and a saddle-bag I bought; he said he often had dangerous times with the Arabs, but that he bought a protection from the most powerful of the neighbourhood, and always obtained restitution of anything stolen.

We pushed on over open country until dark, when we made our camp fire on an open plain with a number of Bedouin's fires blazing round us. I was passed as Abdullah Bey, an Egyptian official journeying back to Egypt after having been to Jerusalem, and although it was only begun for that little while, I thus revived the name borne by a much more distinguished traveller, the great Sheikh Abdullah, and although it was only stated to stop the curiosity of the Arabs we met, I soon found I was called nothing else.

At dawn we were up, and after feeding the camels and getting some coffee brewed we were ready to start at 8.30. During the whole journey I never could manage to get started much before this hour, as the Bedouins require some time to get the night chills out of their bones; the nights were certainly very cold and damp. Our track after crossing a plain struck a road coming from the north-west, and after rising a slight hill the country gradually became more and more sandy, all signs of cultivation gradually dying out, and the continual climbing up and down the sand dunes being most fatiguing and monotonous. At 12 o'clock the track changed direction to south-west, down an open valley amongst sand dunes called San'a el Men'aî, and we camped in a little valley surrounded by the sand. Next morning the route was continued over sand dunes, and we came early to a considerable pool of rain-water called El Khubara; it is formed by the soil of Wâdy Abyad being turned by the Arabs into an old valley bed which is now closed, and they informed me it was kept full all the winter by rain-water coming down the wâdy. A few minutes further on is the first big valley since Wâdy Fara; it is called Wâdy el Abyad, Wâdy Khubara, and Wâdy ez Zayik, and runs with a broad bed through the sandhills to the north-west; there are many tamarisks and bushes along its course. Here we stopped for an hour to bake bread, and

then leaving the valley crossed over more sandhills which seemed interminable. At last the country opened out, and after passing over some very broken ground we arrived at Wâdy el 'Arish.

The valley runs in a deeply-cut bed with mud banks ; it is here about 80 yards wide. There was a pool of rain-water in a bend of the valley, which my guides informed me covered a well called Bîr el Mujdebbah, and if my guides' account was true, that water could be got here all the year round ; this is the only perennial source on this road as far as Ismailia.

After Wâdy el 'Arish the country opens out into a broad plain with an isolated small range of hills called Jebel el Bena in the centre. To the north there is a sandy covered range called Riza Anizeh, and to the south the high hills of Jebel Helah ; a track leading away to the south-west between Jebel Bena and Jebel Helah through an open plain, led, I was told, to Suez. Here camp was pitched.

Next day we passed close under Jebel Bena on the north side over a stony plain called Ragadda ; the hills were formed of nummulitic limestone, and appeared perfectly dry and bare ; the wide open plains were very flat and bare of vegetation, with the exception of a small amount of the usual desert shrub. It was a great relief to get clear of the sand dunes, which ended close to Wâdy el 'Arish.

On reaching the end of Jebel Bena the high range of Jebel Yelek appeared to the south-west, and the long range of Jebel Mugharah flanked the valley on the north ; an open plain up which we travelled led between these two, and our track ran close under the Jebel Mugharah. I was told there was a cave in the interior of these mountains which contained a perennial supply of water. The hills rose abruptly from the plain, and appeared to be of the same formation as the nummulitic range of Jebel Bena. In some places the strata were much bent and contorted. At nightfall we reached a ruined well called Bîr el Hemmeh, which contained a small quantity of stagnant water which had a very unpleasant smell.

Next morning we passed a small ridge formed by a volcanic outbreak of trap rock, and shortly after the sand began to appear again. In a few hours we reached the watershed of the valley ; the sand had increased to high ridges and hills, through or over which we had to find our way. The watershed was flat, another open valley leading away to the west with Jebel Felleh on the south, and a continuation of the Jebel Mugharah range on the north. We camped on the sand near a prominent top called Jebel el Urf, which forms a landmark on this road.

Next morning we crossed the low ridge under Jebel el Urf, and passing down a sandy valley at noon we came to a flat of mud which formed the end of the valley, a barrier of sand having been thrown up and thus stopping up the valley completely. Crossing this ridge an immense extent of sandhills appeared as far as the eye could reach. I do not think I have ever seen so desolate and dreary a country : nothing but ridge after ridge of sand dunes for an immense distance. The wind blew

a strong gale from the west, sending the sand up into our faces so sharply that the camels would at times hardly face it. This wind lasted, unfortunately, until we reached Ismailia, and was very trying to the whole party.

We camped under a sandhill and had a very cold and windy night Next morning it was found we had no water. The Arabs are always most improvident about water, and require continual watching; during the night they had used up the last drop, and in the morning said they could not go on without a fresh supply, as there was no chance of water before Ismailia, and they did not know how long it would take to get in.

They said they could find rain-water in Jebel Felleh. I, however, insisted on going on, and with some difficulty got the camels under way. Two of my Arabs had been lagging behind for some time, so one of the Arabs and myself went back and drove up the camels; the two Arabs were sulky and deserted; however, we got the camels all right. Pushing on through a blinding storm of sand over hill and valley, with only the compass to guide us, at 4 P.M. I saw Lake Tumah, and skirting the shore reached the ferry over the canal at dusk. I had some little difficulty in getting the party across the canal, and was not sorry when I reached comfortable quarters in Ismailia.

H. H. KITCHENER.

THE SECTION OF THE WÂDY 'ARABAH.

THE Wâdy 'Arabah extends from the head of the Gulf of 'Akabah to the south end of the Dead Sea, and is 112 miles long.

The width of the valley at the foot of the hills, from 'Akabah to near the lowest point of the watershed, averages about six miles.

A series of low ridges, called Er Risheh, of about 150 feet above the plain, run obliquely across the valley at this point, forming a length of ten miles. Opposite Mount Hor the valley widens out to thirteen miles, and gradually narrows in to six miles at the south end of the Dead Sea—the same width as that at 'Akabah. The sectional line is drawn from the Gulf at 'Akabah, through Wâdy 'Arabah, representing the lowest depression, to the southern end of the Dead Sea, and continued to the northern end, where the river Jordan enters, showing the depression of the Dead Sea, and that part of Wâdy 'Arabah below the sea level of the Gulf of 'Akabah.

The lowest point of the watershed (660 feet above Gulf of 'Akabah) is computed to be forty-five miles from 'Akabah, and twenty-nine miles farther north the sea level point is reached.

The sketch of the outline of the hills on the eastern side of the valley is given relative to the calculated heights as noted.

Those on the western side (not shown on section) range about 1,900 feet above sea level.

GEO. ARMSTRONG.

ANTIQUITIES OF PALESTINE IN LONDON.

(*Reproduced from the "Times."*)

London and Paris are the only two cities possessing special collections of Palestine antiquities. I do not include in this category rare specimens which may exist sporadically in other European museums or in private hands. These London and Paris collections are, it is true, upon the whole, very trifling, particularly if compared with those, so rich, so varied, which give beside them so imposing an idea of the great civilisation of Egypt, Assyria, Greece, and Italy. It is strange, indeed, that Palestine, which has so long absorbed the attention of so great a number of *savants*, and has the privilege of always exciting the public interest, should not be better represented from an archæological point of view. It is, above all, of this little corner of land, holding so large a place in scientific and religious preoccupations, that one would be anxious to possess monuments as witnessess of its history. The time has, I think, arrived for taking serious notice of it, and seeing if it would not be advisable to inquire into the cause of this inferiority and the means of doing away with it. It never struck me more forcibly than when, some months ago, I was engaged in making a methodical inventory of the monuments of Palestine belonging to the Palestine Exploration Fund and the British Museum. I intend to sum up the result of my researches upon this subject, and, after having submitted to the public a cursory but exact view of the situation, point out such a combination as would permit of its advantageous modification.

I will begin by giving some information upon the antiquities of Palestine existing in Paris. I will then speak more fully upon those which exist in London, because, never having been made the object of a general study, they are less known as a whole.

I.

The Museum of the Louvre has possessed, since 1870, a room for Judaic antiquities, or, to speak more correctly, for antiquities from Palestine. In 1879 the catalogue did not exceed 83 numbers, several of which are only casts. The most precious pieces are the Moabite Stone, which I was enabled to complete, thanks to the little fragments collected by Sir Charles Warren, and kindly presented by the Committee of the Palestine Exploration Fund; a Moabite bas-relief from Chihau, representing a personage with a helmet, of Egyptian style, brandishing a lance, perhaps a King of Moab; a votive white marble foot from Jerusalem, with Greek dedication of a thankful heathen woman named Pompeia Lucilia healed at the Pool of Bethesda; a few sarcophagi, or fragments of sarcophagi, from the tombs of the Kings near Jerusalem, one of which bears an Aramean and Hebrew inscription in the name of Queen Saddan (probably the famous Jewish proselyte Helena, Queen of Adiabene); three

or four Jewish ossuaries in soft limestone; a marble bas-relief from Ascalon, representing three female divinities; a *figurine* in solid gold of Egyptian style, found by me at Gaza; a bas-relief from Gadara, representing the candlestick of the Temple, with the seven branches; a seal, with Hebrew Archaic characters in the name of Shebanyahu, son of Uzziahu.

This little series, which is, properly speaking, a mere embryo collection, will be more than doubled by the antiquities brought by me in 1882 from my last mission in Palestine. They are not yet exhibited, for want of space; I have just published the illustrated catalogue[1] of them, amounting to 111 numbers. I would point out, among other things, six bronze statuettes, two fragments of marble statuettes, among which a colossal head of a woman, of very fine style, from Sebastiyeh; four bas-reliefs, one of which, found at Arsuf (Appollonias), proves that, notwithstanding all that has been said, the ancients were acquainted with the use of horse-shoes; 57 vases and terra-cotta lamps; a Jewish ossuary, with sculpture in relief (very rare); a pair of capitals, one of which bears the legend ΕΙΣ ΘΕΟΣ ("only one God"); a large massive bronze dish richly ornamented with Jewish symbols; a Phœnician inscription, discovered by my mother on Mount Carmel; 21 Greek inscriptions; eight Roman, two of the Crusades, &c.

II.

The list of antique objects from Palestine preserved in the British Museum consists, as far as I could find, of only 57 numbers. These objects are at present dispersed here and there in different parts of the Museum, and have no special numbering, beyond their registered mark of entry. While reproducing, when possible, these registered marks, I have, for greater convenience, given to this scattered collection of objects a series of numbers, classing them in natural groups.

With the exception of a few pieces of the highest order, the objects for the most part are not of great interest. I would mention, in the first place, the two Hebrew inscriptions discovered by me at Selwan, near Jerusalem, in 1870, the possession of which I assured to the British Museum. These two texts, in archaic characters of Phœnician form, belong to the epoch of the Kings of Judah, and are to be placed parallel with the famous inscription of the aqueduct of Siloam. Thanks to them, the British Museum is, as yet, the only museum in Europe possessing, in the original, specimens of Israelitish epigraphy anterior to the Exile. Afterwards come five intaglios, or gems, with Hebrew archaic inscriptions, having certainly belonged to ancient Israelites, as indicated by the characteristic form of the names of their possessors, adorers of Jehovah—Asyu, Yokim, Hananyah, Gadyah, Sephanyahu, Nehemyahu, Mikayahu, &c. Apart

[1] "Mission en Palestine et en Phénicie, entreprise en 1881." V^e^ rapport. Paris: Maisonneuve et Cie., 25, Quai Voltaire. (With 80 engravings and 12 heliographic plates.)

from these monuments, the current epigraphy of Palestine is only represented in the British Museum by a Samaritan inscription from Nablus (Sichem), of rather late epoch, a Greek inscription of Sebastiyeh (dedication of M. Licinius Alexander, son of Quartinus), and a kind of stone seal from the same place, bearing a brief Greek-Byzantine epigraph. I would also mention, though belonging indirectly to Palestine, a disk of green enamelled earthenware of Egyptian manufacture, coming from Gaza or Ascalon, and bearing in relief a cartouche of the King Rameses II.

The British Museum is poor in Palestinian terra-cotta lamps. It only possesses nine, five of which have been acquired from the Palestine Exploration Fund. Two of these bear the ordinary Greek Christian legends. Among the generic types or heads under which I have been led to class all the Palestinian lamps, and which are not represented in the British Museum, I would in particular point out the Jewish type, of which I shall speak presently.

The British Museum possesses about fifteen terra-cotta vases of divers shapes, coming, for the most part, from Bethlehem and from Beit-Sahur; and some fragments of painted pottery picked up in the country of Moab.

In the way of sculpture there is a terra-cotta *figurine*, found, it is said, at Bethlehem (I have some doubts on this point); this *figurine* recalls the terra-cotta *figurines* of Babylon, and represents a nude woman supporting with her two hands her voluminous bosom; a mutilated head in white limestone, brought from Kadesh by the regretted late Dean Stanley (these two objects are very curious); a lion's muzzle in marble, half broken, from Jericho.

In the way of bronzes, there are four belt plates, with figures in bas-relief of Roman style, found in a tomb on the Mount of Olives, and given by Pococke; a small statuette of a man, from Jerusalem, draped in the Roman toga, leaning on a stick, and holding a roll, destined to be fixed on a staff.

Among the objects in glass are to be remarked two tesseræ, one in blue glass (brought by me from Ascalon), the other in white opaque glass from Gaza, both representing in relief the double face of the Egyptian goddess Hathor.

One of the most interesting objects in this little Palestinian series would be, if the origin assigned to it were well established, a large shell (*tridæna elongata*), with engravings both in and outside, precisely similar to the engraved shells found in Assyria, and of which the British Museum possesses several specimens. Amongst other symbols there is represented the head of a god with large outspread wings, and a figuration of the sun in circles of lotus. This shell, acquired from the Rev. Dr. Barclay, was discovered in 1865 in a tomb in the vicinity of Bethlehem, not far from the so-called sepulchre of Rachel.

III.

The Palestine Exploration Fund possesses a comparatively large number of antiquities, coming, for the greater part, from Sir Charles

Warren's and from my own excavations and researches in 1873–4. These objects are deposited in the office of the Fund or exhibited in the South Kensington Museum. However, a number of them, found by me and belonging to the Fund, have remained at Jerusalem, whence it would be desirable to have them sent for.

It was to be regretted that these articles now in London had not yet been made the subject of a regular catalogue. A short time ago I undertook this work—rather difficult work indeed, which lasted over a month. Too frequently exact indications respecting the origin were wanting, and when the objects bore tickets or marks, these were either dubious or illegible. The difficulty was further increased by the unequal and casual allotment between the office of the Fund and the South Kensington Museum, which sensibly complicated the comparison, the rational classification, and the material numbering. I am glad to take this opportunity of thanking Mr. Walter Besant, Secretary of the Fund, Sir Philip Cunliffe Owen, and Mr. Sandham, of the South Kensington Museum, for the very obliging manner in which they facilitated my task.

Now each article is marked with a number, permitting it in future to be easily found again, and quoted with precision; it is moreover represented in my catalogue by a descriptive notice, in which I have made all useful observations concerning its origin, form, use, and, if necessary, its interpretation. This first work effected, I have proceeded to a methodical classification by analogical series, thus creating so many sections where antiquities subsequently obtained will take their place.

I intend shortly to publish this catalogue, which may be of real service, particularly if accompanied by drawings representing the most important objects and types of each series. In the meantime, a brief account of this detailed inventory will perhaps be read with interest.

The antiquities actually existing at the office of the Fund, as well as at South Kensington, number 666. I have excluded from them, with certain rare exceptions, divers objects evidently Arab or modern. Neither have I included, for want of sufficient information, those remaining at Jerusalem or elsewhere.

These antiquities may be classed as follows, according to their material :—

Articles in stone, 150 numbers; in terra-cotta, 444; in glass, 20; cement and plaster, 11; articles in bronze, 19; in iron, 8; in lead, 3; in ivory and bone, 6; in wood, 1. There must be added to this total 4 false monuments (three Moabite potteries, and the pretended sarcophagus of Samson in lead).

Among the objects in stone, there are nine bas-reliefs or statues more or less fragmentary. The most interesting of all is certainly the winged cherub, with human head, of Assyrian style, engraved on the rock discovered by me in 1871 and cut out in the vast quarries called Royal Caves, extending under a part of Jerusalem. I would further point out a pretty head of a woman in marble (Artemis) brought by me from Ascalon in 1874; a torso of a faun in marble (statuette); a bearded

head of Jupiter; the right eye of a statue life-size (found at Ophel, 27 feet deep, by Sir Charles Warren). Among the inscriptions on stone, six in number, may be noticed an original fragment of the bilingual Greek and Hebrew inscription of Gezer, indicating the legal boundary of the city, and four marble tituli from the necropolis of Joppa, with Greco-Jewish epitaphs.

I shall rapidly review the other groups, occasionally giving a few summary particulars concerning the principal objects :—

Eleven ossuaries, or fragments of ossuaries, of which nine with Hebraic or Greco-Hebraic inscriptions.

Twenty stones vases, of which four (small libation vases and tables) are quite out of the common, from their form and ornamentation.

Thirty fragments of architecture of various epochs.

One fragment of mosaic paving.

Thirty hand grindstones or polishers in silex, hard limestone, sandstone, and basalt.

Twenty-five cones or cylinders in soft limestone or chalk, whose use is yet to be determined, and which served, perhaps, as polishers.

Nineteen bullets and balls of silex, basalt, and limestone (projectiles ?).

Eight weights in hard limestone in the shape of thick discs, with turned down bevelled edges. One of them bears on both sides characters appearing to be Semitic. The real nature of these objects is placed beyond doubt by an as yet unpublished specimen in my collection, found at Jerusalem, bearing, in Greek characters of the first century of our era, "The year 5 of King Athamas." This king Athamas, who reigned at least during five years, is perfectly unknown in history. But the presence of this formula, identical with the monetary legends, certainly shows that we have to do with a weight, for the close affinity existing between numismatics and metrology is well known.

Eleven divers objects in stone, some of which deserve special notice. In the first place, the valuable seal discovered by Sir Charles Warren in his excavations, and bearing in Hebrew archaic characters the name of Haggai, synonymous of the prophet, son of Shebanyahu. Next, a small block of basalt, roughly squared, pierced on one side with a conical hole, narrow and deep, perfectly polished in the interior. I think I have succeeded in determining the use, until now unknown, of this singular object, discovered by Sir Charles Warren in his excavations at Ophel. It is simply the lower pivot upon which a door revolved. Considering the smallness of the hole, the revolving axle of this antique door must have been in metal (bronze or iron).

A fragment of moulded basalt coming from the same excavations also much attracted my attention. I am inclined to recognise in it a fragment of the edge of a stela, similar in form to the Moabite Stone. If my idea be correct, we have, perhaps, here the remains of a monument of the Kings of Judah, of inestimable importance, more significant parts of which may not impossibly be discovered some day.

Four fragments of terra-cotta figures from Jerusalem; a pretty head of

a statuette (woman or child), and three fragments of a rude and primitive art, from my excavations in Jerusalem (torso of a woman, head and body of a quadruped).

The terra-cotta lamps form, with the vases, the larger if not the more important sections of the collection of the Palestine Exploration Fund. They consist of no less than 197 numbers. I have, after attentive and careful study, succeeded in dividing them into eleven principal groups, excluding the less frequent varieties. Each of these groups appertains to a special type.

I cannot enter here into the particulars of this classification. I shall confine myself to dwelling upon the first of these groups, consisting of twelve lamps which I consider as properly Jewish. What led me to attribute this origin to them is the nature of their ornamentation, their style, their fabrication, their general shape. Upon several of them I find the characteristic Jewish symbols, the *ethrogs*, the two-handled vase, the grapes, &c. They all present this peculiarity of having under the basis a prominent circular pad, with a small button in the centre. The burner is of quite special rounded form ; the handle is short, pyramidal ; the clay is fine, the workmanship elegant. Such are the diagnostic features by which I propose to recognise henceforth lamps of Jewish workmanship.

The group of lamps with Christian Greek inscriptions number 11. They are of the formulæ already known, "The light of Christ shines for all," or "beautiful lamps," and others sometimes very carelessly traced and almost illegible.

I have formed a group of nine lamps of antique shape, which I believe to be of Arab manufacture. This may cause astonishment at first. But the fact is confirmed by the presence upon two of these lamps of incontestably Arab letters traced in relief around the central hole.

The terra-cotta vases number 219. I have also distributed them among several classes according to their similarity of form. In the first rank I would point out the six handles of amphoræ, with stamps in Hebrew archaic characters, found in the excavations of Ophel by Sir Charles Warren, and the large vase covered with bas-reliefs, found in my excavations at Bezetha.

I shall relate, incidentally, a little discovery made by me in the course of this part of my catalogue. Sir Charles Warren brought from Jericho a gigantic neck of an amphora (the neck alone measures 41 centimètres) which was buried in one of the *tells* of the plain. Upon the edge is a Latin stamp, already published, giving the potter's name. But in attentively scrutinising the fragment I have further ascertained the existence of two lines of Greek characters, traced in ink with the *qalam*. They are extremely faint and indistinct, and one may understand that they have escaped notice until now. I read in one of these lines, ΟΥΙΝΟΣ ΧΙΟΥ, "Wine of Chios." The hybrid Greco-Latin form ΟΥΙΝΟΣ (*vinum* and *οἶνος*) is most remarkable. At all events, this epigraph gives us exact information as to the destination and age of this enormous recipient.

Among other objects in terra-cotta, numbering thirty-four, two deserve

a special mention. They consist of two fragments of tiles or bricks, marked with the stamp of the 10th Legion *fretensis*, left by Titus in garrison at Jerusalem after the siege in which it had taken an active part.

The objects in bronze comprise a little Egyptian *uræus*, an ape, a ram lying down, a bust of a woman with a suspension ring on the head, mirrors, a spiral spatula, two clasps, a ring, a part of a helmet, an *umbo* of a shield, a triangular spatula, a candelabrum of the Crusades, &c.

Iron is represented by a few nails and fragments of a doubtful age; lead, by a small *figurine* of Venus Anadyomene found by me at Jerusalem, and two seals, one of which, ornamented with a personage in an ædicula, appears to have been used to close up the orifice of a narrow-necked vase; ivory, by an elegant female figure holding a crown, brought by me from Ascalon, a small plaque, marked with concentric annulets, a die and various remains, among which are some cylindrical fragments, belonging possibly to an antique flute; wood, by a few morsels of carved cedar, burnt and decayed, found in the ruin of an ancient church near Jericho.

IV.

Such is the summary of the antiquities of Palestine existing in London.

One may see that, even adding to them those of the Museum of the Louvre, the whole makes a very modest group, since it does not amount to 1,000.

Among the number are pieces which are really of the highest order, and suffice to show that well directed researches might produce most important results. It is, at the least, a guarantee of success for the future—a testimony proving that the Holy Land still contains, and can deliver up to seekers, monuments capable of rewarding them for their trouble, and of shedding unexpected light on her history.

If until now she has been so sparing of her treasures, it is, above all, owing to the nature and special purposes of the researches hitherto undertaken.

The Palestine Exploration Fund has, beyond doubt, rendered immense service to Biblical studies, and accomplished, with rare energy, a grand work with which will remain connected the names of Wilson, Warren, Conder, and Kitchener. Its *Quarterly Statements* published since 1869, and filled with the most interesting information, its admirable maps of Western Palestine, its beautiful volumes of "Memoirs," give brilliant evidence of its efficiency. But its efforts have, until this day, been principally concentrated (and rightly, for one must keep within bounds and proceed methodically) upon the geography, geology, topography, and the descriptive archæology of the country. The searching for antiquities, the forming of archæological collections by means of acquisition, did not enter into its programme; the few antiquities collected have, so to speak, been accidentally met with.

The time appears to have come for the proposal of another aim. A

portion, and not the least one, of the task has been accomplished with the greatest success. After what has been done we must think of that which remains to be done, and consider whether it would not be advisable to organise a real museum of Palestine, in which could be arranged in methodical series all the fragments of its past that could be picked up, and of which the little collection belonging to the Palestine Exploration Fund would naturally form the nucleus.

It rests with the Palestine Exploration Fund to carry out this programme, by applying to it the resources at its disposal, and the means never grudged by a public who have constantly followed and supported its former undertakings.

I do not pretend to trace here the plan of this institution, which should be founded on the widest basis. I will limit myself to pointing out the general lines that it would, in my opinion, be expedient to follow in order to carry it into execution. The Palestine Museum should consist of a vast building in which would be placed together, not only all the local antiquities, all the monuments which could be obtained, but also reproductions in fac-simile, or casts, of monuments that cannot be displaced or that exist in other museums, plans in relief on a large scale, photographs, stereoscopic views, complete and attractive specimens of the animals, flowers, &c., peculiar to the country, costumes, ethnical types, tools, arms, instruments, geological specimens picturesquely arranged, &c. It would be well to join to these an extensive and animated panorama of the Holy City, and dioramic views of the principal localities and of characteristic scenes of popular life in Palestine, in order to add to this scientific combination an irresistible element of attraction and success. A library, containing all the principal publications relating to the Holy Land, and receiving any fresh ones as they appear, should be annexed to it, and put at the disposal of students ; rooms reserved for popular or learned lectures. In short, in the centre of London should be created a representation, as faithful, varied, and complete as possible, of Palestine, past and present, which would be as a living commentary on the Bible.

It should suffice to cross the threshold of this building in order to have a perfect view of the Holy Land, both instructive and interesting. The charge of entry, fixed at a moderate sum, would be devoted to the fund necessary for the progressive increase of the collections through the medium of agents residing in Palestine or visiting it at close intervals. By the existence alone of such a central institution, native seekers, certain of a ready sale, would be stimulated and multiply discoveries from all parts of the Holy Land. The first funds necessary for commencing might be obtained either by means of a subscription, or else by shares allotted to all those, and they are numerous, who are interested in the progress of Biblical study, and to whom they would secure certain advantages generally reserved to the founders of similar institutions. A sum nearly equal to that which has already been collected and expended by the Palestine Exploration Fund since its foundation would be amply sufficient.

If this project can ever be realised it is surely in England, in a country

so passionately fond of Biblical studies, and which has already made such great and fruitful sacrifices for the exploration of Palestine.

CH. CLERMONT-GANNEAU.

THE ROUTE OF THE EXODUS.

ON the eve of the departure of the Palestine Exploration Expedition from Egypt for the Arabah last year I sent to Major Kitchener a copy of my book, "The Hebrew Migration from Egypt" (Trübner), with a request that he would kindly note some places in the region he was about to visit as illustrative of my view of the route taken by the Israelites on their route from Egypt to the Land of Promise. I was specially anxious to learn certain particulars about the Haj route from Suez to Akabah, at the head of the eastern arm of the Red Sea, and about the region immediately to the east of Petra. The Expedition did not follow the above route, nor was time or opportunity permitted for the examination of the neighbourhood of Petra. Major Kitchener was, however, good enough to send me a list of the stations of the Haj, from Suez to Akabah, and their characteristics in respect to water supply, and after an examination of my views as to the course followed by the Hebrews, wrote to me as follows :— "I think in your book you have described the actual route taken by the Israelites, and I fully believe Mount Hor and Mount Sinai to be one." As, however, my view completely revolutionises all that has for many centuries been generally accepted, respecting not only the track of the Israelites on quitting Egypt, but the locality of Mount Sinai, it may perhaps not be uninteresting to the members of the Palestine Exploration Fund to summarise briefly the principal grounds on which I have based my conclusions.

According to the Scriptural account the following were the stages and the incidents of the journey between the Egyptian frontier and Mount Sinai. The Israelites went three days into the wilderness, and found no water; at their next stage they came to Marah, where the water was bitter. The next point mentioned is Elim, with its wells and palm-trees, where they encamped by the waters of the Red Sea ; from Elim they entered the wilderness of Sin, which lay between Elim and Sinai, and whilst there received the quails, the eating of which caused so many deaths that the place was called Kibroth-hat-taavah (Numb. xi, 34). They then reached Rephidim, where there was no water for the people, and where Moses, having gone on before, caused water to flow through the riven rock. In this neighbourhood the Israelites met Jethro, the father-in-law of Moses, and his people, and concluded a league with them (Exod. xviii, 12). Then follows the mention of Mount Sinai, and what occurred there. This account of the route from Egypt to Sinai is perfectly intelligible, and as I show is alone reconcilable with the assumption that the Israelites crossed the Tîh by the well-known road to the Gulf of Akabah, and thence pro-

ceeded up the Arabah for some distance and entered the Idumean range by one of the valleys debouching on "the plain."

The time employed in crossing the Tîh from Suez to Akabah is six days. During the first three days no water is found, and the traveller then arrives at Nakhl, the half-way house across the desert, where there is good water. The next stage is Abiar Alaina, so named by the earlier travellers, where the water is bitter; the next, the summit of the defile overlooking the Gulf of Akabah; and the final stage Akabah (Elath), known in ancient and modern times for its wells and its palm-trees, and one of the resting-places of the Egyptian Haj on its road to and from Mecca.

It is therefore easy to reconcile the incidents of a journey across the Tîh with those related as marking that of the Israelites before reaching Elim. During three days they would seek in vain for water, which does not exclude the presumption that at the end of that time they obtained it; at their next stage they would reach Abiar Alaina, where the water is bitter; and the next place worthy of mention must have been Elath, with its wells and palm-trees. In the Scriptural records it is stated to have been Elim. Elim and Elath are, however, as every Hebraist knows, only different plural forms of El (as Hazarim and Hazeroth, Deut. ii, 23; i, 1, are plurals of Hazer), and have the same meaning, namely, "trees," or "palm-trees." I cannot here give in detail the many reasons, Scriptural, philological, historical, and geographical, for my identification of the Elim of Exodus xv, 27, with the Elath of Deuteronomy ii, 8, and the historical books (1 Kings ix, 26) which preserved its name until converted by the Greeks into Elana, and by the Romans into Ailah.

If the Israelites took the route I have indicated, then it will probably be admitted that Mount Sinai must have been somewhere in the Idumean range. The captives would scarcely have returned to the Tîh, and they did not until a much later period march along the east "coast" of Edom They consequently must have gone northwards up the Arabah.

I then proceed to show that if they took this route, they entered the Idumean range by one of the valleys communicating with Petra, that it was Kadesh in the vicinity of the Mount of God, and that the miraculous supply of water was obtained through the Sik, the marvellous chasm through which a stream enters Petra from the east.

The evidence supplied, not only in the Scriptural records, but elsewhere, in support of the accuracy of these conclusions is overwhelming. It is needless to say that there is not a word to be found in Holy Writ in which any allusion is made to the so-called Sinaitic peninsula.

In the blessing of Moses Sinai is placed in Seir (Deut. xxxiii, 2), and that the mountain range of Seir was in Edom is not disputed. In the song of Deborah (Judges v, 3, 4) the mother of Israel no less unmistakably indicates that to her mind Sinai was in Edom, and was one of the mountains of Seir. Habakuk sings of God coming out of Teman, and the Holy One out of Mount Paran (Hab. iii, 2), which mount is identified in the blessing of Moses with Sinai, whilst Teman is universally admitted to have formed part of Edom. The story of Elijah's journey to the Mount

of God (1 Kings xix) furnishes no great help in determining whether Sinai was in the peninsula or in Edom, but I show by Josephus's paraphrase of the story that in his opinion the prophet directed his steps to Edom. St. Paul beyond all question placed Sinai in Arabia (Gal. iv, 25), and I demonstrate by a careful examination of the earliest opinions held respecting the limits of that country, both by Arabian geographers and others, that it was not until the second century of the Christian era that Ptolemy created a new Arabia, called Arabia Petræa, which he is supposed to have extended to the west of the Arabah, comprising the Tîh and the Sinaitic peninsula; but this Arabia was absolutely unknown to St. Paul and his contemporaries, and could not in the necessity of things have been referred to by him when he used the words "Mount Sinai in Arabia." Isstachri, in the tenth century, and Abulfeda at a still later date, declared that Arabia did not extend west of the Arabah, and they would never have sought for Sinai to the west of that boundary. The Tîh and the peninsula were regarded in Judæa, until long after the commencement of the Christian era, as portions of Egyptian territory.

From a careful examination of the "Onomasticon," I show that Eusebius and Jerome, though evidently ignorant of the precise mountain to be regarded as Mount Sinai, were of opinion, on the strength of traditions existing in their time, and of beliefs held by their comtemporaries, that some of the places which in the Pentateuch must have been in close proximity to the Mount of God were in Idumea. Thus the place where Moses caused the water to flow from the rock at Rephidim they identified with what must be the later Petra. Pharan, which must equally have been in the neighbourhood of Sinai, they declared was three days' journey from Ailah on the *east;* but following the Roman road which led from Ailah through the Wâdy-el-Yitm to the east of the range of Seir, such a journey would take the traveller to a region bordering on Petra. It is, however, clear from the writings of Eusebius and Jerome, and I may also add Josephus, that at the commencement of the Christian era, and at the end of the fourth century, there was no one in Judæa who had a knowledge of the precise locality of Sinai. All that was known of it was that it was in Arabia; but if Josephus, or Eusebius, or Jerome, had known of any mountain which in their time was called Sinai, they would undoubtedly have fixed the locality by stating its distance from some place well known to their contemporaries For example, Mount Hor, where Aaron died, is unequivocally stated to be in the immediate neighbourhood of Petra.

It appears from the chronicles of the Monk of Chartres, and Albert of Aix, that at the commencement of the twelfth century Baldwin led two expeditions through Idumea. In the first he reached Petra and was there shown the waters which flowed from the rock when struck by the great Hebrew lawgiver, and in the adjoining Mount Hor the King and his companions were led to believe they saw Mount Sinai. In the latter expedition they proceeded as far as Ailah, at the head of the Gulf of Akabah, and were told that it was the Elim with its wells and palm-trees

mentioned in Exodus. Here they received a message from the monks living on Mount Sinai begging them not to ascend the mountain. I show that this mountain could not have been in the Sinaitic peninsula, but must have been the same to which reference is made in the record of the first expedition, as overhanging Petra, upon which was a Monasterium dedicated to Aaron.

I consequently demonstrate that all the evidence at our command, whether supplied by the Scriptures or by other writings, points in one direction alone, and indicates beyond doubt that Sinai was in Edom.

We possess, however, in the Book of Deuteronomy (x, 1–6) absolute proof that Sinai was not only in Edom, but was identical with the mountain where Aaron died, the *Har-ha-har*, "the Mount of Mounts," now known as Mount Hor. I need not say Mount Hor is not a proper name: it is simply Hor-Hor—Mount-Mount.

It is there stated that Moses having descended from "the mountain" with the second set of tables of stone placed them in the Ark. That this mountain was Sinai will not be denied. But immediately afterwards follows an account of the children of Israel setting forth from the walls of the Beni Jaakan to Mosera, and that there Aaron died and was succeeded by Eleazar. But it is undisputed that Aaron died on Mount Hor—the Mount of Mounts, and it is therefore abundantly clear that to the mind of the Deuteronomist—whether Moses or a later writer—the death of Aaron took place on or in the immediate neighbourhood of Mount Sinai. On grounds into which I cannot enter here I identify the Beeroth Beni Jaakan with the Esek and Sitnah of Isaac, and the Massah and Meribah of Exodus' which are to-day represented by two streams rising a few miles to the east of Petra and uniting before they penetrate the Sik. The well from which one of these streams springs bears to-day, as it did in the time of the Crusaders, the name of Ain Mûsa—"the Well of Moses."

Kadesh I identify as Petra, not only on the testimony of Eusebius and Jerome, but on the conclusive evidence furnished by the Targumists and Josephus that Rekam was the ancient Kadesh and the then modern Petra. Of the contiguity of Kadesh to the Mount of God, the Scriptural records leave us no room for doubting.

It will possibly be objected that if Mount Sinai and Mount Hor were identical, it is almost incredible that the people of Judæa should have lost sight of that fact, and that the recollection of Aaron's death on the mountain should have survived the memory of the far more wonderful event recorded as having occurred on the Mount of God.

I meet this objection ("Hebrew Migration," pp. 330–333), as I believe successfully, though I cannot here even summarise my arguments. We must not, however, lose sight of the only too palpable fact that Sinai, wherever situated, to all appearances fell into oblivion after the settlements on the opposite sides of the Jordan. No pilgrimages were made to it, and its recollection alone survived in the poetry of the sacred bards. But if it was in the peninsula this neglect is as surprising and unaccountable as if it was in Edom, and consequently this objection presses with equal weight

against the theories of those who identify Jebel Mûsa and Jebel Serbal with the Mount of God as against mine.

It will also be objected that if my view of the route taken by the Israelites be correct, the wanderings in the desert become still more unintelligible. My reply is, that although a considerable period—forty years—elapsed between the departure from Egypt and the settlement in the Promised Land, there is not the faintest suggestion, either in the Pentateuch or elsewhere in the Scriptures, that the Israelites passed that time in wandering from place to place in the manner popularly assigned to them.

The issue here raised is one not only of historical interest, but of deeply religious importance. If, as the Scriptures teach us, the Israelities were Divinely led to their future home, it is impossible to overrate the mistake, if mistake it be, of alleging that during the long period which elapsed between the departure from Egypt and their arrival in the Land of Promise, they were made to stray from place to place within a region which they could have easily quitted within a week.

According to my construction of the story of the Exodus the Israelites arrived at Mount Sinai—Hor, within a month after quitting Egypt (Numb. xx, 1), having crossed the desert of the Tîh probably by Nakhl, and Abiar Alaina (Marah) to Elim—Elath, at the head of the Gulf of Akabah, and thence northwards up the Arabah. They were there hospitably received by the Kenites who occupied the country adjoining Mount Hor (Exod. iii, 1). Some time after their arrival they addressed a request to the King of Edom to be permitted to pass through his territory in order to make their way to the trans-Jordanic region. This request was refused (Numb. xx, 21). Edom came out against Israel "with a high hand," and the further advance of the Israelites was arrested for a period, the length of which we cannot determine with certainty, and Israel "abode in Kadesh" (Judges xi, 17). Subsequently and probably when the "forty years" were nearly exhausted, despairing of being permitted to pass through Edom, the Israelites re-entered the Arabah from Kadesh (Petra), and having "dwelt long enough upon this mount," were commanded to "turn" (Deut. i, 6, 7), which they did, and "took" their journey into the wilderness "by the way of the Red Sea" (Deut. ii, 1), and having passed "through the way of the plain" (Arabah) by Elath and Ezion-gaber (Deut. ii, 8), at the head of the Gulf of Akabah, directed their steps northwards by the eastern border of Edom to Moab, and thence across the Arnon into the trans-Jordanic region.

This may appear a very startling version of "the forty years' wanderings in the desert." I cannot, however, claim for it the merit of originality. The same story was told much more succinctly nearly three thousand years ago, by one of the Judges of Israel. The authority of Jephthah will hardly be called in question (Judges ii, 16–18).

But it will then be asked, "What becomes of the famous wanderings?" My answer is that the belief in them has arisen through the misconceptions entertained in later ages of the very simple and intelligible language

contained in the Pentateuch. These misconceptions have arisen in part from misunderstanding the original story, by gratuitously assuming that the Israelites spent the forty years in moving from place to place, and in part from mistranslation of the Hebrew words which are supposed to mean "to wander."

Caleb is represented as saying that "Israel wandered in the wilderness" (Josh. xiv, 10), but the verb used, *Hah-lach*, literally means "to walk," and it is so stated in the marginal note in the Authorised Version. The same word is used in Deuteronomy xxiii, 14, "Thy God *walketh* in the midst of thy camp," and by Jephthah when he said, "Israel walked through the wilderness to the Red Sea" (Judges xi, 16). This word is frequently employed in Hebrew to signify a state of continuance, thus resembling the French verb *aller*.

Again in Numbers xiv, 33, the word *Rah-yah* is translated "wander," though the translators admit in the margin that it also means "feed." The passage simply means that the rising generation were compelled to "feed" —that is, to live—forty years in the wilderness, until their disobedient parents had died.

In Numbers xxxii, 13, it is said that God "made them wander in the wilderness forty years," but the word so translated, *Noo-ay*, when used elsewhere does not bear this interpretation, but simply means a change of movement consequent on the non-realisation of the object originally prompting it (2 Sam. xv, 20). It would therefore be applicable to the change of route forced upon the Israelites when they failed to secure a passage through Edom, and after a long delay had to retrace their steps to Elim-Elath, and thus skirt the eastern border of Edom. The word does not mean an objectless moving from place to place, or an unreasoning straying in a region from which the strayers were presumably unable to find their way out.

The Psalmist uses (Ps. cvii, 4, 40) a word, *Tah-yah*, which has been rendered *wander*, but when it is pointed out that Abraham employs the same word when telling Abimelech that God caused him to "*wander*" from his father's house (Gen. xx, 13), it is apparent that it simply means to journey in search of an, as yet, undiscovered home.

Those who quitted Egypt, save the rising generation, never entered the Land of Promise, and as the time necessary for proceeding from that country to the land of Gilead would, under ordinary circumstances, have been but a few weeks, the conception arose in later times that the forty years were passed in "wandering"—that is, in straying—from place to place in the desert. But there was nothing in the records taken with them by the Israelites to the land of their settlement to justify that conclusion. They had passed "forty years" in the *desert*, but so they termed the entire region which intervened between Egypt and their future home, and necessarily including Kadesh with the Mount of God. The greater portion of the time was passed at Kadesh, but this fact (Judges ii, 17) was lost sight of centuries afterwards, and the belief arose that the time passed in the desert was occupied in moving objectlessly about from one place to

another. The demonstration that the Israelites did not "wander" is surely more consonant with a belief in Divine guidance than the common assumption that they acted like men who had lost their way.

It will be seen that the key to the solution of the most interesting and ancient of historical enigmas lies in the identification of Elim, the place of palm-trees, with Elath or Eloth, equally noted for its palm-trees and its wells down to the present day. The Coptic monks who settled in the Sinaitic peninsula in the third and fourth centuries chose to fancy that one of its mountains must have been the Mount of God. There were none to deny the pretensions thus set up, and in the course of centuries they became so firmly established that no one ever dreamt of calling them in question. Hence inquirers into the route taken by the Israelites have always started from the postulate that the released captives must have entered the peninsula; hence the necessity for placing Elim somewhere on the shore of the Gulf of Suez, though confessedly no place corresponds to it, and hence the final necessity of taking the Israelites from one of the so-called Sinaitic mountains up to the table-land of the Tîh, and leaving them there without any attempt to trace their further progress until at some distant period they are found at Mount Hor. Let this entirely unsupported assumption of the Coptic monks be discarded—an assumption which I have shown to be wholly at variance with every allusion to the locality of Sinai in the Biblical records, and with the opinions held on the same subject by Josephus, Eusebius, Jerome, and by the Crusaders—and the story, as told in the Mosaic records, becomes perfectly simple and intelligible. I further demonstrate conclusively that the western region of the Sinaitic peninsula close to the Gulf of Suez was occupied by the Egyptians at the time of the Exodus, and that the battle between the Israelites and the Amalekites recorded in Exodus xvii could not by any possibility have been fought in that region. The Amalekites were to be found in Edom, and in that region at a subsequent period the Israelites sustained a defeat at their hands (Numb. xiv, 45; Deut. i), and it was they who barred the route of the Israelites to the Promised Land (Numb. xiii, 2). Josephus constantly identifies the Amalekites with the Edomites.

The stations of the Egyptian Haj between Suez and Akabah, as given by Major Kitchener, correspond with the Biblical account of the journey of the Israelites across the desert to Elim-Elath-Akabah:—1st day, En Nawater, no water; 2nd day, Jebel Hosu, no water; 3rd day, Nakhl, good water; 4th day, Abu Muhammed, or Er Reis, bad salt water; 5th day, Ras en Nakb; 6th day, Akabah, good water. It will thus be seen that the three days' journey without water would take the Israelites to Nakhl; the next day's journey to Abu Muhammed, evidently a modern name, which I identify in my book under the name of Abiar or Bir Alaina with Marah and its bitter water, and from thence it was two days' journey to Akabah—the Ailah of the Romans, the Elana of the Greeks, and the Elim-Elath of the Hebrews.

I may add, in conclusion, that it is singularly confirmatory of the accuracy of my conclusion in placing Kibroth-hat-taavah, "the Graves of

Lust," in the Arabah between Elim-Akabah and Mount Hor—Sinai, that in the map of the lower Arabah, prepared under the direction of Major Kitchener, a marsh with the name Taavah is placed about a day's march from the head of the gulf. On the western side of the marsh are the remains of a Bedawin cemetery. It would be curious to ascertain whether the Bedawin selected so strange a place for a burial ground in consequence of any ancient tradition still clinging to it. At all events the designation remains unchanged after 3,000 years—Kibroth-hat-Taavah, "the cemetery of Tavaah."

J. Baker Greene.

A PUZZLE IN JOSEPHUS: TWO GADARAS OR ONE?

Ever since I prepared my work on "Galilee in the time of Christ," which first appeared early in 1874, I have felt that there was a difficulty with regard to a certain passage in Josephus, and its solution which I subsequently arrived at may be useful to those who have not reached independently a similar result. These notes might have been published long ago, except that I hesitated to do so on the ground that I did not feel competent to criticise so celebrated an editor of Josephus as Dindorf. The difficulty to which I refer will be best represented by quoting two passages both of which are from the "History of the Jewish War."

1. "Vespasian having arrived before the city of Gadara, carried it on the first assault, having come upon it while it was destitute of an effective force. On entering the town he put to death without distinction all from youth upward, the Romans showing compassion to none of adult age, as well from hatred to the nation as in recollection of the outrages committed against Cestius. The city itself he reduced to ashes, all the hamlets and small towns around sharing its fate." (3 "Wars," vii, 1.)

2. Vespasian "broke up his encampment" at Cesarea-on-the-sea that he might proceed to Jerusalem and finish the war, but deemed it "necessary previously to reduce what remained in his way, that no external impediment might interfere with his operations. Accordingly he marched on Gadara, the capital of Perea, a place of some strength, which he entered on the 4th of the month Dystrus," corresponding to the 24th of February. No battle took place here, for by a preconcerted plan that portion of the inhabitants who were disposed for peace opened the gates secretly and welcomed him to the city, while those who were for war fled, and their pursuit led at last to the engagement before Beth Ennabrin, and to the slaughter on the east bank of the Jordan opposite Jericho. Vespasian merely placed a garrison in Gadara, and withdrew again with a large part of his army to Cesarea-on-the-sea. (4 "Wars," vii, 3, 4.)

It is commonly supposed that the Gadara referred to in these two

passages was one and the same place, namely, the town east of the Jordan well known at present as Um Keis. There are, however, good reasons for supposing that this cannot possibly be true.

It will be noticed that in the first passage, Gadara, which is called a "city," was reduced to ashes, and its inhabitants were slaughtered; the date of this event was the spring of the year A.D. 67.

The date of the event recorded in the second passage was the spring of the year A.D. 68; in fact, there was hardly an interval of twelve months between the two. In this passage Gadara is a strong city, with walls, and with a numerous population that was divided into two powerful factions bitterly opposed to each other.

There is thus a decided contrast between the circumstances of the place as stated in the first passage, when compared with those that are mentioned in the second passage, which leads to the conviction that two distinct places are meant.

By glancing at the events which led up to the taking of Gadara, as mentioned in the first passage quoted, we find that Vespasian, after having collected his forces at Ptolemais early in the spring of the year A.D. 67 (3 "Wars," vii, 1), moved forward with the purpose of invading Galilee (*ibid.*, vi, 2), and, apparently with his entire army, reached the frontiers of that province (*ibid.*, vi, 3). His position can be indicated approximately from the circumstance that a Jewish force encamped at a town called Garis, not far from Sepphoris, fled when they heard that the Romans were approaching and were "on the point of attacking them" (*ibid.*, vi, 3).

Vespasian's march must have been in an easterly or rather in a south-easterly direction from Ptolemais. Going in this direction he reached the frontiers of Galilee (3 "Wars," vi, 3). It was then and there, without any time having intervened, and without any further march having been made, that he carried the city of Gadara by assault (3 "Wars," vii, 1).

Hearing that Josephus and the Jews had rallied in Jotapata, Vespasian ordered a road to be made through the rough country lying between his camp (at Gadara) and that place, when he moved thither his whole force, the time occupied in making the march being an entire day, and, it is necessary to mention, no more than that (3 "Wars," vii, 3, 4).

Vespasian was in an enemy's country, and it was necessary for him to advance with the utmost caution. To have taken his army to Gadara east of the Jordan, would have been to have taken it through the heart of a hostile country several days' march from Ptolemais, his proper base of operations and supplies, past Tarichea, a powerful city of the enemy, and where subsequently to secure it a great battle was fought, and it is unreasonable to suppose that even to strike his foes with terror he would have attempted such a rash move as all this would imply.

When Vespasian captured Gadara east of the Jordan there is, in the record, no hint that the place had been captured by him before.

Neither is there in the record any hint that the place had been rebuilt, or that it had revolted, both of which must have been true had Vespasian captured it twice within the space of twelve months.

The people of the place which Vespasian took were hostile to him, and hence they were destroyed; while in Gadara east of the Jordan there was such a large party in his favour that he was admitted without a struggle.

If Gadara east of the Jordan is meant, Vespasian on his return must have marched his army in one day from this point to Jotapata, a thing which is simply impossible.

We conclude that whatever place may be referred to in the passage quoted from 3 "Wars," vii, 1 it is certain that Gadara, now known as Um Keis, cannot be meant; on the contrary, that place was on or near the frontiers of Galilee at a point east or south-east of Ptolemais, and at a distance of an ordinary day's march from Jotapata, now known as *Jefat*, situated half-way between Ptolemais and Tiberias.

Gadara or Gabara?

We come now to consider what should be the proper reading in the text of Josephus in 3 "Wars," vii, 1.

In the "Life of Josephus" we find a city in Galilee named Gabara frequently mentioned as playing an important part in the events of those times, but which is never once spoken of in the history of the war; notice must be taken of some of the passages where this name occurs.

Gabara, Tiberias, and Sepphoris are referred to as "the three largest cities in Galilee" (1 "Life," xxv), and that they were so is confirmed by the fact that they were called upon equally to furnish their respective complements of troops (chap. xl). Gabara was friendly to John of Gischala, and joined his party; hence it was inimical to Josephus and desired his destruction (chaps. xxv, xlv).

While Josephus was at Chabolo watching the Romans under Placidus, Jonathan, accompanied by others, arrived from Jerusalem and summoned him to appear before them at Xaloth (chap. xliv). This Josephus refused to do on the plea that he could not leave Chabolo defenceless. Jonathan wrote again and demanded that Josephus come to him at Gobaroth, which is called a "village" (chap. xlv), while he himself, accompanied by his party, goes thence to Japha, Sepphoris, Asochis, and at last reaches Gabara. Meantime Josephus went to Jotapata, "forty furlongs distant" from Chabolo, or from his camp near that place. In his reply to Jonathan, Josephus declines to go either to Gabara or to Gichala, but to any other of the two hundred and four cities and villages of Galilee he was willing to go; and hence it is clear, both from this statement and from his subsequent conduct, that he did not decline to go to Gabaroth.

Having placed guards on the road leading from Gabara to Galilee he repaired to Gabaroth, which he reached in the fifth hour of the day, having left Jotapata in the morning. I give these details respecting distances because I consider them valuable helps in our efforts to identify the localities mentioned (chaps. xlvi, xlvii). In front of Gabaroth, which is again called a "village," was a plain where the party of Josephus were assembled. After some deliberation Josephus determines to advance

"against the deputies," meaning Jonathan and his friends. The latter heard of his approach, and withdrew to a kind of citadel, where they hoped to entrap Josephus upon his arrival.

From details given in chap. xlviii it is certain that Gabara and Gabaroth were two distinct places, one being always called a "city," and the other never called a city but a "village"—situated, however, in close proximity to each other, and which have been considered as one and the same place.

Omitting the details of what happened at Gabaroth, Josephus in the end, to avoid a conflict, mounted his horse, and directing his party to follow him, rode to Sogana, distant twenty furlongs from Gabara (chap. li).

We have said enough to show that in the very region where we should expect to find the "city" Gadara mentioned in 3 "Wars," vii, 1, we find the "city" Gabara brought forward in the record in the most conspicuous manner, and we do not hesitate, therefore, to change the reading in this passage from Gadara to Gabara.

As Gabara, Tiberias, and Sepphoris are mentioned together in chap. xxv, and again in chap. xl, it is probable that the same group is meant in chap. xv, where Josephus says, "I took Sepphoris twice, Tiberias four times, and Gadara once." The reading Gadara here must be changed to Gabara.

To sum up what I have said it appears—

1. That the place referred to in 3 "Wars," vii, 1, as Gadara cannot be the place now known as Um Keis ;
2. That the reading in this passage should be Gabara, and not Gadara ;
3. And that Gabara and Gabaroth were two distinct places.

SELAH MERRILL.

United States Consulate, Jerusalem.

NOTES FROM THE APRIL *QUARTERLY STATEMENT.*

MR. OLIPHANT'S interesting paper has, unfortunately, suffered by his absence from England, which leads to many misprints remaining uncorrected. Of these the most important are Mukkraka for Mahrakah ("place of burning"), Tsjin for Ijzim, Dahlieh for Dâlieh, and an error of the omission of the 'Ain in the Arabic word Kal'ah. The remains described by Mr. Oliphant are similar to the various Byzantine fragments which occur again and again in the "Memoirs," but he has been able to confirm in a very remarkable manner my discovery of a synagogue at Semmâka by the recovery of the seven-branched candlestick over a tomb door which I missed in 1873.

I am also glad to be supported by Mr. Tomkins with respect to Kanana. As to the ruin Râbûd to which he refers (p. 58), the suggestion

seems to me very possible ; but Tell 'Arâd is hardly in the hills, as Mr. Tomkins seems to say, being in an open plateau.

As regards Mr. Birch's papers it is not necessary for me to say much. If he attaches any value to the size of Sarum, he should measure its area on the Ordnance Survey map. I may note, however, that Dr. Schliemann in Troja gives us a city of Priam of 40 acres, and a later Ilion of about 100 acres. Surely Troy was a less important place than Jerusalem.

The hypothetical second aqueduct from the Virgin's Fountain to Siloam has left no known traces of its existence. A curious point in Mr. Birch's plan is that he apparently joins it on to an existing channel in such a way as to show that the water must run just the opposite way to that in the real existing water channel, which leads *from* the Pool of Siloam to the gardens in the Kedron.

I believe that the fact which has originated the idea of a second aqueduct is that a short tunnel has been found in the rock just north of the dam which closes the old Pool below the modern Pool of Siloam. This tunnel I have seen and entered. Its lowest part is considerably higher than any part of the Siloam tunnel, and it runs rapidly up hill. If it was ever more than a drain it was probably the end of the surface channels which existed on Ophel in 1872, but which are now destroyed in quarrying. The level precludes the idea that it can have any connection with the Virgin's Fountain.

C. R. C.

NOTES FROM THE JULY *QUARTERLY STATEMENT.*

Prof. Hull's Paper.—I am glad to find the general views suggested in "Tent Work in Palestine," and in my paper on the Exodus (1883), receive confirmation by a skilled geologist. I may note that the level of the sandstone east of the Dead Sea was determined by us in 1882 over a considerable distance, which, together with other observations, will be found noted in my "Memoirs."

Dolmen in Bashan.—This is described in the last *Quarterly Statement* as a large example, but neither in height nor in size of capstone does it at all approach the finest Moabite examples.

Prof. Sayce on Jerusalem.—I had not gathered from the sketch that the Temple-hill was supposed to be occupied by a town in Solomon's time, nor do I know any passage in ancient writings which would support such a theory.

Kadesh.—It should not be forgotten that there are objections which have seemed to many fatal to the identification of Kadesh Barnea at 'Ain Kades, which Dr. Trumbull appears to consider proven. I have read Dr. Clay Trumbull's book carefully ; it contains much valuable information, but as he finds himself obliged to move Mount Hor and Mount Seir

from east to west of the Arabah, it is clear that he sees the difficulty arising from 'Ain Kades being so far west.

Herr Schick's Paper.—In some details this agrees with the views of General Gordon; in others it reproduces a former paper by the same writer. There are several points in the paper which seem to require reconsideration. Why must the Stone of Bohan be "white striped?" A confusion seems here to have occurred. Why does Bueimât mean "door of death" (Bâb el Maut)? According to the Arabs it means "little owls." Why should an ordinary boundary cairn of the Arabs be "the heap of stones the Israelites placed over Achan?" The cairn is called Esh Shemalîyeh, "northern," which has nothing to do with Achan. The idea that Beth Samys, Shemesh, and Som'a are the same place was originated by General Gordon, but contains two errors. First, Beth Samys is well known to be the present Hizmeh, the Hebrew Azmaveth; secondly, Som'a ("the heap," spelt with an *'Ain*) has no connection at all with either Shemesh or Samys. There are several unfortunate misprints in this part of the paper.

Why is En Rogel placed at Bir Eyûb? This is not the general belief of students. Why is Lifta "with good reason" identified with Nephtoah? There are many objections to such a view, philological and topographical. Ephron and Ephraim are certainly not the same in Hebrew, the first having a guttural Ain. The name Kubbet Rahîl I could never recover at Herr Schick's site. Ikbâla is a Crusading convent, and, as far as I could find, nothing else.

Mr. Birch on Acra.—As regards this paper I have only a few words to say. My statement as to Mr. Fergusson's view regarding Akra was duly verified by reference to the map which accompanies his account of Ancient Jerusalem, published about 1847.

Mr. Birch is, no doubt, aware that many authorities consider that two Akras are intended in various passages, one being the hill of the lower city, the other the Antonia fort; and as Akra is only a Greek term meaning apparently a fortress (as in the Acropolis of Athens), there seems no reason why the Hebrew Baris (Birah) may not be in some cases so translated. The LXX reads Akra for Millo. As regards the tomb of Uzziah, there is more than one difficulty in reconciling the accounts in Kings and Chronicles, but my argument is that the "City of David" was another name for Jerusalem generally. When Ophel came to be inhabited the name may be supposed to have included Ophel, but this is quite a different matter to confining ancient Jerusalem to the insignificant space south of the Temple. Mr. Birch himself quotes passages from the LXX which agree entirely with the supposition that the terms Zion and City of David are synonymous with Jerusalem generally.

As regards the note from the Tosiphta quoted by Mr. Birch, I think it is clear from the context that R. Akiba was not referring to a known fact, but constructing a theory. If bones had remained in the tombs under the city, Jerusalem would have been impure. "Hence it is shown," argues the Rabbi, that some underground passage must have existed whereby the

tombs were cleared. R. Akiba was supporting his unsound theory as to purity by a bold invention as to underground passages, being forced to admit that the Royal Tomb was (as all men knew) inside the city. This kind of argument is not yet extinct, but R. Akiba's passage had no more existence in fact than Mr. Birch's second Siloam aqueduct. As to the long passage from Gibeon, I have only to say that I do not think the authors of the Pascal Chronicle knew more about the Tomb of David than we do. I do not see how Mr. Birch has proved my references to be unverified, although Mr. Fergusson's view as to Akra are not the same in his various books on Jerusalem.

C. R. C.

EMMAUS.

I.

The identification of Urtâs with Emmaus seems to be accepted in some quarters as "proved beyond cavil or doubt" (*Quarterly Statement*, 1883, p. 62). At the risk of being classed among "cavillers," I venture to give reasons for entirely dissenting from the proposed identification. In *Quarterly Statement*, 1879, p. 105, I endeavoured fairly to summarise the evidence for the several claimants to represent Emmaus. There is given there a quotation from Lightfoot, who proposed to identify Etham with Emmaus, not only anticipating Mrs. Finn's proposal, but giving another, and I think more plausible, support for it than she has done. My objections are—

(1) There is no evidence to show that "the bath" Mrs. Finn writes of is of the age she assumes—that it was old enough, not to say important enough, to give its name to a place known to Luke and Josephus.

(2) The existence of a bath, or baths, in a valley down which flows abundance of water is not, *primâ facie*, a thing so special as to explain the distinctive name of a village. If every place is to be recognised as a possible "Emmaus" where the name "Hammâm" is found, we shall have plenty to choose from. Is this different from the place noted in "Memoirs," iii, p. 94, thus?—"Hummâm Suleimân—an old pool, now filled up, with fine masonry walls, and some pillar shafts lying in it. It is in the valley below Urtâs." "An aqueduct from it is said by the natives to have supplied Birket el Hummâm at Jebel Fureidis." Here are two spots at which the name occurs in this same valley. And see the "Memoirs" *passim*.

(3) Etham has transmitted its name from the days of Rehoboam (2 Chron. xi, 6), and is still known as 'Ain 'Atan. What evidence is there that it ever was "superseded after the days of Solomon by that of 'Paradise?'" (*Quarterly Statement*, 1883, p. 58.) If the evidence of the natives is of value on the point, the name is still "Hummâm Suleimân," and with Urtâs preserves the memory of Solomon's gardens and pools uninterruptedly.

(4) Josephus knew the site of Solomon's gardens (8 "Ant.," vii, 3), and tells us "they were at Etham about 50 furlongs distant from Jerusalem."

He knew also the position of the Roman colony, of which he writes, "it is called Emmaus, and is distant from Jerusalem 60 furlongs" (7 "Bell. Jud.," vi, 6). Clearly he knew nothing of the name Etham having been superseded, and he did not suppose it the same as Emmaus, or he would not have given the two names thus, at different distances from Jerusalem. His position of Emmaus is the same as Luke's, showing it to be correctly given. His position of Etham is also correctly given, as measurement shows.

(5) Manifestly the Emmaus of Josephus and Luke was a well-known place—"a village." Jerome located the Emmaus of Luke at Nicopolis, though surely one who lived so long at Bethlehem would have heard of the name there, had it been known. No traces of villages such as tombs, &c., seem to have been found. Meshullam, who lived so long there apparently, never heard the name as that of a village. Urtâs refers, it is generally agreed, to the old gardens of Solomon, and is not, as, *e.g.*, Kolonieh, of later origin superseding Emmaus ; while nothing remains, so far as has yet been shown, to prove that the place ever was other than a garden, with "pools" in it, and that there ever was a change of its name to Emmaus, and then a reversion to its earlier name. Urtâs, Hummâm Suleimân, 'Ain Atan, are against the suggestion, and agree in one ancient tradition.

(6) What position would be selected for a Roman colony, it would be venturesome to attempt to decide. It is not likely that 800 disbanded soldiers would be *very* modest in their claims n a land conquered and depopulated. The little garden of Urtâs would certainly suffice for but few of them. Moreover, Josephus, in the same chapter in which he tells of the planting of the colony at "a place called Emmaus, 60 furlongs from Jerusalem," tells us of the capture of "that citadel which was in Herodium." Herodium is 60 furlongs from Jerusalem ; if he meant Herodium in both places why did he not say so, instead of introducing the name and distance from Jerusalem of another "place"—a village too (Luke), not a *walled* citadel ?

(7) As regards El Kubeibeh, on the other hand, it is found to be the correct distance from Jerusalem. The Crusaders said they found the name of Emmaus there. They knew of Emmaus Nicopolis, and its acceptance by Eusebius as the Emmaus of Luke, and had no occasion to *invent* the name. The name of a colony clings to the place. Three miles along the Roman road, passing through El Kubeibeh, there is Wâdy el Hŭmmâm, and down that valley is Khurbet el Hŭmmâm, where they could have planted their holy place had they not found the name where they said they did. Two Roman roads cross just there ; while the story of the land from the days of Joshua to that of the Maccabees, demonstrated the value of holding that position—communicating, moreover, as it did, with the sea and the garrison of Cæsarea.

As regards Kurbet el Khamasa, a statement of its claims, to which nothing can be added, is given in "Memoirs," iii, p. 36. Between it and El Kubeibeh the case seems still to lie.

ARCH. HENDERSON.

II.

All readers of the *Quarterly Statement* must have been interested by the account of Mrs. Finn's researches in the Valley of Urtas (January Number, 1883); but I doubt whether many were convinced by her arguments in favour of identifying that place with Emmaus. As, however, Mr. Mearns (January Number, 1884) refers to a paper of mine July, 1881) on the same subject, and supposes that I have probably given up my own view and adopted Mrs. Finn's, I shall be much obliged by your allowing me to point out why Mrs. Finn's argument appears to me inconclusive, and to state a little more in detail my reasons for adhering to the opinion that connects St. Luke's Emmaus with Kubeibet, and with the Wâdy Buwai stretching down to Kolonieh.

Mrs. Finn's case rests on a mistaken inference from the words of Josephus about the Galilee Emmaus. He interprets the name to mean, *pro hac viæ*, Hotwells ("Bell.," iv, 1, 3). But he certainly does not intend it to be understood that the name Emmaus always has that meaning. The same Hebrew name might easily have different Greek equivalents, and *vice versâ*. Josephus mentions two other places called by the same name, but does not in either case connect the name with Hamath, or Khamath (Hot Spring); and it is certain, as a matter of fact, that in one at least of those places (Nicopolis) there is no trace of there ever having been a hot spring.

This particular question is indeed no new one. Lightfoot long ago pointed out that although the Galilee Emmaus derived its name from its hot springs, the Gospel Emmaus could not do so, because the Arabic, Syriac, and Persian translations of St. Luke begin the word with an ע, and the Talmudists write the Nicopolis Emmaus אמאוס. He concludes: "There were at Emmaus [Nicopolis] noted waters, but we can hardly suppose that they were warm, if we consider the usual writing of the word among the Talmudists."[1] And I may add that this argument is strengthened by the recollection that the Jerusalem Talmud, and probably the Mishna, were written at Tiberias, by men therefore well acquainted with the hot springs of Hamath.[2]

There is therefore no ground for the assumption with which Mrs. Finn sets out, that the interpretation given by Josephus to the Galilee Emmaus is to be extended, or has any application to any other Emmaus. In that particular instance Ammaus represented חַמַּת. In a second case it represented, as we have seen, אמאוס. In a third it may with equal propriety, and probably does, represent המוצה.

But how does Mrs. Finn apply her inference, assuming it to be correct, that every Emmaus must be a Hamath? She knows that there are no hot springs at Urtas, or at any suitable distance from Jerusalem.

[1] Lightfoot, ii, p. 371; *cf. ibid.*, p. 42.
[2] *Ibid.*, p. 72.

She does not suggest (as Mr. Mearns does) that in a volcanic country hot springs may have changed to cold. But noting that the Arabic Hammâm stands for artificial hot baths, as well as for hot springs, she argues that Emmaus may have been employed with a like latitude; so she asked herself, "Were any baths to be found at a suitable distance?" If so, there would be Emmaus. The copious fountain in the Urtas Valley attracted her attention, as being sufficient to supply baths. The recollection of once visible traces of baths still existed in the neighbourhood: search is made: remains of extensive and luxurious baths are brought to light, dating very probably from the days of Herod the Great: and Mrs. Finn concludes that she has found Emmaus.

But with all deference I submit that just as every Emmaus was not a Hamath, or Hot Spring, so every discovery of Hammâm, or Baths, is not the discovery of an Emmaus. That there were Hammâm at Urtas Mrs. Finn has discovered as a veritable and interesting fact; and, as a matter of course, *these Hammâm were called Hammâm.* But that the village itself, or the district, was ever known by the name of Emmaus, or even of Hammâm, Mrs. Finn has not advanced a fragment of evidence. Nay, she has not shown that any village or district whatever has ever been called Hammâm because artificial baths were erected there. Of course baths cannot but be called baths, but every place that has baths is not necessarily called Bath. There is nothing whatever in the fact that baths were found at Urtas, and that they were suspected to exist there and were called (as they could not but be) Hammâm, to prove that the *valley* or *village* ever bore the name of Hammâm, or of Emmaus.

Mrs. Finn endeavours to fortify her claim for Urtas as the Emmaus colony of Josephus, by suggesting that it was chosen by Vespasian with a view to keeping a watch over the surviving remnant of Jewish fanaticism at the fortress of Masada. But the colonisation referred to was in no sense what she calls it, *military.* It was a *grant of land* to 800 *disbanded* veterans, for their residence and possession (*εἰς κατοίκησιν*).

Thus the reasoning in favour of Urtas crumbles away step by step. While against the theory there are one or two matters certainly worthy of consideration, which have not been noticed.

1. Is it probable that the splendid and "Royal" baths which Mrs. Finn describes, and which, according to her theory, had given a new name to the valley, a name under which the valley was familiarly known in the days of St. Luke and of Josephus, should have been so completely obliterated and the new name so entirely forgotten by the days of St. Jerome—that he, living close by, should have entirely overlooked it, and should have ascribed to Nicopolis, as he did, the honour of being St. Luke's Emmaus?

2. Is it probable that Josephus, alluding to a place so notable, and so near *Bethlehem*, should have called it "a district 60 furlongs from Jerusalem?" And if he did so, is it probable that St. Luke also, who in the second chapter of his history had illumined the famous city of David with a new and imperishable glory, should in his last chapter have spoken of a village within a mile and a half of that city, as "60 furlongs

from Jerusalem," and not in the far more natural way, as "a village near Bethlehem?" No writer would speak of Clewer as a "village some twenty miles from London," when he could give the far more pointed description "close to Windsor."

As I observe the fragile nature of Mrs. Finn's arguments, and these *à priori* improbabilities in her theory, I feel that, while all must have thanked her for her valuable contribution to the discussion (and none more so than myself, who recollect a very pleasant evening spent at her house at Jerusalem some thirty years ago), the careful searchers for Emmaus will not subscribe to the title of her paper as "*Emmaus Identified.*"

Let me now state my reasons for believing that the district (*χωρίον*) of Emmaus which Josephus says was given by Vespasian to 800 disbanded veterans, lay along the valley that has Kolonieh at its southern extremity, and that the village (*κώμη*) spoken of by St. Luke was near the head of that valley and reaching on to Kubeibeh.

In Joshua xviii, 26, we read of a certain Mozah; but in Hebrew it reads, with the article, הַמֹּצָה (Ham-Môtsah), and it is represented in the LXX by Ἀμώσα (in Codex A., Ἀμώσα), and in the Vulgate by Amôsa. This Môtsah is named in the connection with Mispeh, Rekem, and Chephira, or Haccephirah. And in the locality where the acknowledged sites of these places are found there is still existing a ruin called Khan Beit Mizza; and the interchange of Yod and Vaw is so frequent that there is good ground for thinking that Mizza or Mitsa represents the ancient Mozeh, Môtsah, or Ham-Môtsah. In other words, this ruin, Mizza, represents more or less closely a place called in the LXX Ἀμώσα, in the Vulgate Amôsa.

Is anything further known about Mozeh? The Talmud speaks of a certain מוצה, spelt as Joshua spells it. It gave its name to a valley "near Jerusalem" and "below Jerusalem," to which the Jews resorted on the first day of the Feast of Tabernacles to provide themselves with the two willow branches which each worshipper was expected to carry on that occasion, and for some reason or other it bore the name of Kolonieh. (Smith's "Dic. of Bib., S.V.," Mozah, Cespari, § 191; Lightfoot, vol. i, 976.) But the ruin Beit Mizza, which, as we have seen, probably represents the ancient Amosa, is but a short distance from the only place anywhere near Jerusalem which now bears the name of Kolonieh. There is therefore good reason for regarding Beit Mizza as representing the Talmudic Mozah, and if so, the Mozah of Joshua and of the Talmud are the same. In confirmation of this it may be observed that Furst (without reference to the History) derives the name from מוצה to suck, and interprets it "*the place of reeds.*" Certainly willow might well be looked for in "the place of reeds."

We have now then arrived at a further step in our argument. We have found that the Amôsa of Joshua became a colony. No one can fail, however, to see how near the name Ἀμωσα, or Amôsa, comes to Ἀμμαους, or Ammaus. And when we read in Josephus that Vespasian gave a *district*

(χωείον) to 800 disbanded veterans for their possession and residence (εἰς κατοίκησιν), and when he further gives this district the name of Ἀμμαους, it is impossible to avoid the conjecture that Ἀμμαους is more or less closely connected with the ancient Ἀμώσα, or Motzah, and with the Kolonieh of the Talmud.

The difficulty now presents itself that Josephus says Ammaus is 60 furlongs from Jerusalem, whereas Kolonieh is about 36. But a little consideration suggests that as Josephus speaks of a *district* (χωρίον) to be divided among 800 men for a permanent residence, one end of this district may have abutted on the great Roman road to Joppa (at Kolonieh), and the other end may have been three or four miles further from Jerusalem, and altogether away from that road. And while the lower end of the valley would form the nucleus of any growing population, and would soon develop into a new town, and swallow up all recollection of a former state of things, the original village, which gave its name perhaps to the valley, may have been, *when the colony was first placed there*, at the distance named by Josephus. Few things are more observable than such a shifting of population and names, when villages and hamlets are changed into towns by some wave of circumstance.

Once more: If Môtsah, Amôsa, Ammaus, was the name of a district, the ruin Beit Mizza may be the southernmost trace of the old name, and the original village (κώμη) may have been, in the time of St. Luke, at the head of the valley, and extending beyond it. Here the Crusading tradition comes to our aid. For though that tradition may have no authority as such, yet the fact that it would have been more natural for the Crusaders to place Emmaus at Kuriah Enab on the Jaffa road, and the fact that the tradition harmonises with and helps to reconcile the other data, give it some real weight. According to this tradition Kubeibeh is the village Emmaus. It may have been the furthest extremity of the village; if so, the two disciples on that famous Easter Day would descend into "the valley near Jerusalem" just at the point over which Beit Mizza now stands, would pursue its course northward and westward, and as they reached its head would be at the end, or near the end, of their memorable journey.

One conclusion is indisputable, that no other location of St. Luke's Emmaus could by any possibility combine so many rays of light as converge upon the Wâdy Buwai from Joshua, the Talmud, Josephus, existing names, and Crusading tradition.

R. F. Hutchinson.

THE SITE OF ZION.

Another perusal of Captain Conder's article on this subject has led me to think that he has altogether misapprehended my views about the size and position of the pre-exilic Jerusalem, and has further overlooked the necessary inferences to be drawn from the Siloam Inscription. At the

risk, therefore, of threshing the old corn over again, I write a few lines, which will, at any rate, I hope, make my own meaning clear.

The Siloam tunnel is cut through the south-eastern hill of modern Jerusalem, the so-called Ophel, and it is towards the lower or south-western end of it that the famous inscription is engraved. I have endeavoured to show that the tunnel is the same as that referred to by Isaiah (viii, 6), in the reign of Ahaz, and that the conduit made by Hezekiah was the second tunnel, which led from the Upper Pool of Siloam, or the Lower Gihon, to the Lower Pool of Siloam. Other scholars believe that the Siloam tunnel itself is the one that was made by Hezekiah. Whether they or I are right is of no consequence for the present argument: in either case we now know the exact position of the hill through which Hezekiah's aqueduct was excavated. It is the so-called Ophel, or south-eastern hill.

Now we have two accounts in the Bible of the construction of this aqueduct. One is in 2 Kings xx, 20, which does not state where it was precisely that it was made; the other is in 2 Chron. xxxii, 30, which tells us that Hezekiah "directed the waters of the upper Gihon—or Virgin's Spring—to the west side of the city of David." Consequently, the tunnel which starts from the eastern slope of the south-eastern hill, and ends on its western slope, must run through the site on which the city of David stood, and this site must be the south-eastern hill. I see no escape from this conclusion. Furthermore, we have the explicit statement in 2 Samuel v, 7, that the city of David was built on Zion. The hill of Zion, therefore, was the south-eastern hill.

So much for Captain Conder's theory of the position of Zion. The Siloam Inscription has virtually settled the dispute. It also settles the question as to whether the hill of Zion extended across the deep Tyropœon valley—a rather remarkable feat one would have imagined for a single hill. Hezekiah's conduit ended on the western side of the city of David, while the two Pools of Siloam are on the western slope of the south-eastern hill; accordingly, the city of David, and the hill on which it stood, could not have extended across the gorge to the west of it. The Tyropœon Valley, therefore, must be the valley of the sons of Hinnom, into which the western gates of Zion opened.

When this conclusion is reached, it follows, as I have pointed out, that Ophel is only the northern portion of the south-eastern hill. In my former paper I blundered over the account given by the chronicler (2 Chron. xxxiii, 14) of the wall built by Manasseh, owing to my not perceiving that the Gihon he mentions was the Lower Gihon, or Pool of Siloam. Manasseh began his wall "outside the city of David," and to the west of the Pool of Siloam, but also somewhat to the south of it, at the point where the "gorge" of the sons of Hinnom met the *nakhal*, or valley of the Kidron. From this point it ran northwards as far as the fish-gate, where it turned to the east and "compassed about Ophel." I suspect that "the broad wall" spoken of by Nehemiah (iii, 8; xii, 38) formed part of it.

Pre-exilic Jerusalem, accordingly, consisted of two hills only: the south-

eastern, or Zion, the northern "excrescence" of which was termed Ophel—a name which implies an "excrescence" on another hill, and not the whole hill itself—and Mount Moriah, on which the Jebusite city stood. Until it was levelled by Simon the Hasmonean, the highest point of Zion dominated Moriah, which will explain why the Jebusite redoubt, or protecting fortress, was built here, and also why David erected here his palace and barracks. From the time of Solomon onwards the south-eastern part of Moriah was occupied by the palace and temple where the court officials and guards as well as the priests lived; the rest of Moriah continued to be the seat of the Jebusites and foreign merchants who filled the bazaars on the north and west.

Now it is clear to me that Captain Conder, with his mind full of the Temple area of the Herodian epoch, has never realised that it was this amalgamation of the old Jebusite town and its Jewish suburb which I meant by pre-exilic Jerusalem. Otherwise he would never have imagined that I confined "the capital of Syria in David's time" to an area of only 15 acres. He himself tells us (in his "Handbook to the Bible") that the building space on Moriah amounted to 35 acres, and this has to be added to the 15 acres before we have an approximate measure of the size of Solomon's city. My impression is that the Jewish suburb itself, though we are told only 15 acres in extent, was no smaller than the Hebron which was for seven years the capital of David. The Jerusalem of David's later years would not be much inferior in size to the rival capital of Ammon.

Captain Conder thinks that his views as to the size of pre-exilic Jerusalem are supported by the Book of Nehemiah, where it is said (vii, 4) that "the city was large and great, but the people were few therein." Unfortunately, however, he has not read on to the next chapter. Had he done so he would have seen what Nehemiah's statement really means. Here (viii, 1) we learn that not only the inhabitants of Jerusalem itself, but also of the country round about, "gathered themselves together as one man into the square that was before the water-gate," and there listened to Ezra, while he read the Law. It was no wonder, therefore, that the city seemed "large and great" to them. Captain Conder has forgotten the infinite capacities of Orientals for packing themselves together in a small space: had he slept with the fellahin of Palestine as often as I have done, I think he would have understood how it is managed.

A. H. Sayce.

"AS THOU COMEST UNTO ZOAR."

Every new discovery in Bible lands tends to throw new light on the Bible text; and every fresh illumination of the Bible text in the light of later Biblical research is almost sure to give added meaning, as well as added clearness, to both text and context. There is always a positive

gain in finding out just what was originally declared in the sacred Scriptures, however the recent disclosure may damage or destroy the venerable interpretation of centuries. A fresh illustration of this truth is furnished in the light thrown on various passages in the Pentateuch, by the now better understanding of the prominence attaching to the Great Wall of Egypt in the days of the Hebrew Exodus.

Take, for example, that passage in Genesis xiii, 10, which pictures the Jordan Valley, as it was in the days of Abraham and Lot: "And Lot lifted up his eyes, and beheld all the plain of Jordan, that it was well watered everywhere, before the Lord destroyed Sodom and Gomorrah, even as the garden of the Lord, like the land of Egypt, as thou comest unto Zoar." Why "Zoar," of the Jordan Valley region, should here be named in conjunction with "the land of Egypt," has long been a puzzle to the Commentators. A favourite mode of solving the difficulty has been by re-shaping the passage, so as to connect the approach to "Zoar" with "Sodom and Gomorrah" (see, *e.g.*, Vatablus, A. Lapide, Bochart, Poole, Houbigaut, Bush, *et al.*); but that is only a suggestion of what *might have been* a diluted meaning of the passage.

The Syriac version reads "Zoan" [of Lower Egypt] for "Zoar." That would make the sense clearer, if only the change could be justified. Modern discoveries in Egypt have, however, brought out an ancient name of a locality in that land, which comes nearer to "Zoar" than "Zoan;" namely: "Zar," or "Zar" (or Tar, or Tor, as it would be literally, since there is no "z" in the Egyptian). Already, several scholars have proposed the reading of "Zor" for "Zoar," in the passage referred to; but this leaves still unsettled the questions: Where was Zor in Egypt? and Why should Zor have such mention in the description of the Jordan Valley? It is to those questions that I now essay an answer.

Zor, or Zar, or Zal (in the plural Zaru or Zalu), was a designation, not of a city or town, but of the border-land of Eastern Lower Egypt, which of old was shielded by the Great Wall, stretching across that desert frontier from the Mediterranean to the Gulf of Suez. The word itself signifies the "strong place," the "fortified place," or, as it might be rendered, the "walled land." Brugsch, who has done so much in disclosing the history of ancient Egypt, says of the meaning of this word (although, by the way, he has been misled, by some of its applications, into the belief that its use was at times limited to a single city of the border region, instead of applying uniformly to the border region as a whole): "Zar . . . possesses the same signification as its Coptic derivation (ϩⲟϩ, ϩⲟⲗϩ, ϩⲱϩ, ϩⲱϩⲓ, ϩⲱϩⲉ, ϩⲱⲱϩⲉ), 'brave, strong, strength, a fortified place.' . . . It therefore follows that a country called Zar must signify a 'country fortified by forts for its defence.'" (See Brugsch's "Dict. Geog.," p. 997.)

References to this region Zor are frequent in the papyri, and on the sculptured monuments of ancient Egypt, all going to show its location

within the Great Wall, and its population as including the foreign residents of Egypt; such as the Hebrews in their land of "Goshen," and the Shasoo, or Bed'ween, in their border camping-ground, the "Succoth." The Great Wall itself is often called the "Khetamoo of Zar," the "Fortifications of the Strong Land." The region just westward of the Great Wall is designated on the list of Nomes at Philæ, as *Ta-m-Zaru*, the "Land of Zaru," or the "Land of the Fortifications." The Egyptian official in charge of that region is called *Mer-Khet-Zal*, "Superintendent of the Fortress of Zal;" and again, *Her-petoo*, "Head of the Foreigners." From this root Zor it is probable there comes Mazor as a designation of Lower Egypt, and again Mitzraim, the Two Egypts, Upper and Lower.

Zor was the garden land of Egypt. "The best of the land" was there in the days of Joseph (Gen. xlvii, 6), and so before and after. A graphic picture of it in the nineteenth dynasty, not far from the period of the Exodus, is given in an ancient Egyptian letter-writer's description of the treasures and attractive surroundings of one of its chief cities. The "Letter of Panbesa," as translated by Goodwin, is to be found in the "Records of the Past" (Vol. VI, pp. 11–16); but I quote from the freer and more pictorial rendering of Brugsch ("Hist. of Egypt," II, 100–102): "Nothing can compare with it in the Theban land and soil [in Upper Egypt]. . . . It is pleasant to live in. Its fields are full of good things, and life passes in constant plenty and abundance. Its canals are rich in fish, its lakes swarm with birds, its meadows are green with vegetables, there is no end of the lentils; melons with a taste like honey grow in the irrigated fields. Its barns are full of wheat and durra, and reach as high as heaven. Onions and sesame are in the enclosures, and the apple-tree blooms. The vine, the almond-tree, and the fig-tree grow in the gardens. . . . Plenty and abundance are perpetual in it. He rejoices who has settled there."

Here was a "garden of the Lord," an earthly paradise, in the eyes of those who were familiar with it. Abraham and Lot had been within its borders. The self-exiled Hebrews could never forget it as their old home. When they were out in the dreary wastes of the Sinaitic peninsula, their hearts went back after its luxurious abundance, and their lustful cry was: "We remember the fish, which we did eat in Egypt [in the land of Zor] freely; the cucumbers, and the melons, and the leeks, and the onions, and the garlic; but now our soul is dried away [we are famishing]: there is nothing at all, beside this manna, before our eyes [no other food to be seen]." The pictures of Zor are alike, whether sketched by Egyptian or by Hebrew pens.

Now if, as we may well suppose, the Book of Genesis was written by Moses (with the aid of whatsoever documents, from the days of Abraham or long earlier, were available to him) during the period of the wanderings, is it not every way natural to find him comparing the rich and tropical fertility of the lower Jordan Valley, which the Israelites did not yet know from personal observation, with the paradise of Zor in Lower Egypt, which was so familiar to them? What more effective comparison could he have chosen?

There are frequent glimpses in the Book of Genesis of the primary application of its ethnical teachings to those for whom it was originally prepared. This reference to Lot's choice would seem to be one of these. Moses is picturing Abraham and Lot on the bleak and rugged hillsides of Judah, looking down into the fertile valley of the Jordan, with its tempting display of unfading bloom and beauty. In making vivid his portraiture to the Israelites, his description is as though he had said, "That scene before the eyes of Lot was a rare one. The Jordan Valley is even now a lovely region. You may be tempted to think of it as only a slight improvement on these Negeb wâdies southward from it, with their scanty vegetation and their partial water supply; but it is quite another land from this, and in the days of Lot, before any portion of it was laid waste by the destruction of the Cities of the Plain, that valley was like the place of places in all the world of your knowledge. It was as well watered everywhere, and as fertile in consequence, as that earthly paradise which was your old home in Lower Egypt. It stretched out before the eyes of Lot, as the Egyptian Delta stretches out before those who enter Zor, through the desert gateways of the Great Wall, from the eastward."

That was a comparison which every Hebrew who had come out of Egypt could recognise and appreciate. And when it was added that, under those circumstances, "Lot chose him all the plain of Jordan," while Abraham moved Negebward, and was afterwards a dweller "between Kadesh and Shur," between the border limits of Canaan and Egypt, many of those longing Hebrews must have felt, that Lot showed more worldly wisdom than Abraham in his choosing. With this understanding of their ancestral history, the Israelites were prepared to consider more intelligently the recorded consequences of the choice of ease-loving Lot; as over against the choice of patient and trustful Abraham, with its assured results to his countless children in the faith.

The difference, in the Hebrew, between the words Zor (צוֹר) and Zo'ar (צוֹעַר) is that of a single letter (ע). The Rev. Henry George Tomkins (whose recently expressed desire for light on the location of Zor has immediately prompted me to this article) even goes so far as to say, that "the Hebrew word *exactly* suits" the Egyptian name; but, possibly, he had in mind the fact that an *Egyptian* writer, not having an exact equivalent of the Hebrew *'ayn*, would have written Zo'ar the same as Zor. A *Hebrew* writer, however, might have observed the distinction, had he chosen to do so. If is certainly fairer to suppose that a later copyist, more familiar with Zo'ar in the Jordan Valley than with Zor in Lower Egypt, erred in a change of the letter accordingly, than it would be to suppose that the whole passage was originally written so clumsily as to require its reconstruction, in order to make its sense plain, as so many commentators have argued.

A second reference to this locality, with the same error in transcription, would seem to be found in Deuteronomy xxxiv, 3, where the Land of Promise is described as it stretched out before the eyes of Moses

from the heights of Pisgah. "And the south, and the plain of the valley of Jericho, the city of palm-trees, unto Zoar," is the present reading. The apparent prominence here given to the small city of Zoar as a noteworthy boundary limit, is clearly not in keeping with the other statements of the inspired description; but when "Zor," or the eastern border of Lower Egypt, is recognised in this "Zoar," the consistency is manifest. "Moses went up from the plains of Moab unto the mountain of Nebo, to the top of Pisgah, that is over against Jericho. And the Lord showed him all the land of Gilead unto Dan." That took in Israel's territory east of the Jordan, at the right hand of Moses, as he stood, and marked the northerly limits of the Land on the western side. "And all Naphtali, and the land of Ephraim and Manassah." That swept downward through Galilee and Samaria. "And all the land of Judah unto the utmost sea." That included the territory of Judah and of the Philistines, in front of Moses, from the Dead Sea westerly to the Mediterranean. "And the south." That was the Negeb, from Beersheba to Kadesh-barnea, at his left hand. "And the plain of the valley of Jericho the city of palm-trees, unto Zoar;" or, more accurately, "And the circle of the valley of Jericho, the city of palm-trees, unto "Zor." That marked a sweep from the beautiful Jordan Valley, at his feet, far away south-westerly to the borders of Lower Egypt, the limits of the Land of Promise in that direction. Is not the reasonableness of this rendering obvious?

It may be mentioned just here, that a chief difficulty in the way of identifying Zoar in its suggested site near the southern end of the Dead Sea, has been the fact that that point was not visible to Abraham and Lot on the one side of the Jordan, nor to Moses on the other side, from their summits of observation severally. But if Zoar is found to be not mentioned in either instance, its site can be decided apart from any such supposed difficulty.

And is it not fair to suggest, also, that "Zor" was meant instead of "Zoan" in the references, in Psalm lxviii, 12, 43, to the marvels wrought in Lower Egypt? The Ten Plagues were not confined to the city of Zoan, nor to the immediate suburbs of any one city. Their sweep was peculiarly "the field of Zor," the region westward from the Great Wall of Zor—as the Hebrew Psalmist would view it. It would certainly seem a very natural way of recalling, from Palestine, that series of miracles in the Egyptian Delta, to say of God's wonder-working in behalf of His ancient people:—

> "Marvellous things did He
> In the sight of their fathers,
> In the Land of Egypt,
> In the Field of Zor."

Brugsch is clearly not justified in claiming that he finds in an ancient papyrus the very *phrase* "'*sochet Zoan*," the 'field of Zoan,'" as an equivalent of the phrase of the Psalmist, "*sadeh Zoan*;" as will be seen

by an examination of the hieroglyphs which he cites in support of that claim (see his "Geog. Dict.," p. 992). To make his point, he arbitrarily translates the quite general determinative of the three upright reeds into the special word *sochet* (*sekhet*) "a field," and then adds the proposition. In fact, while he does not find the phrase "field of Zoan" in the inscriptions, Brugsch does find there the phrase "field of Zaru," or "field of Zor" (see "Geog. Dict.," p 993), as clearly applicable to the region of the Eastern Delta.

This whole inquiry gives another illustration of the value of Biblical geography as an aid to Biblical exegesis.

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THE SILOAM INSCRIPTION.

From the labours of German scholars, and especially Dr. Guthe and Professor A. H. Sayce, we infer that the text of the inscription is now as fairly translated and settled as it ever will be. My present note has reference only to the statement in the fifth line, and its use in aiding us in the settlement of the value of the Jewish cubit in British inches. Professor Sayce, quoting from Dr. Guthe's article in the "Zeitschrift der Deutschen," &c., xxxvi, 3, 4, gives the following translation of the fifth line of the text, as now settled ;—

"And there flowed the waters *from the spring to the pool* for a thousand two hundred cubits."

All former translations of the text have given us 1,000 cubits, but the latest are unanimous in making the number 1,200 cubits. I propose in this short note to again call attention to the value of the Jewish cubit as tested by this revised text of the inscription. It will afford us a good opportunity of arriving at some general result.

Theoretical Value of the Cubit.

In former communications I have advocated a cubit of $\sqrt{\pi} \times 10 = 17{\cdot}724$ inches. But I have been making extensive researches in relation to this question, and have arrived at definite results. The cubit-rod of the ancient world, as seen embodied in the nilometer at Elephantine, in the measurements of the Great Pyramid, in the many cubit-rods, and in measurements given in papyri and elsewhere, was the well-known radius of the circle expressed in seconds of arc taken as inches, and reduced $\frac{1}{10{,}000}$ part $= 20{\cdot}62648$ inches, or the same factor as we use in our estimate of the radius of the earth's orbit to obtain the sun's distance $= \frac{206264{\cdot}8}{10{,}000} = 20{\cdot}62648$ inches. This radius was the ancient measuring

rod of the universe, and, with a movable decimal point, became the common measuring rod of the ancient world in all matters pertaining to civil, scientific, and commercial affairs. But this cubit-rod consisted of two spans and a palm, or seven palms.

The Jews used a similar cubit-rod, with a similar division of the scale into spans, palms, and digits. But the Jewish cubit-rod was estimated as a cubit and a handbreadth; for the cubit consisted of two spans = 6 palms = 24 digits. So that the Jewish cubit-rod was one palm or handbreadth *more* than a cubit. The cubit is thus described :

> "These are the measures of the altar, . . . its border on its margin about was *one span.*"—Ezek. xliii, 13.
> "The border about it was *half a cubit.*"—Verse 17.

The border is "*one span*" in verse 13, and "*half a cubit*" in verse 17; therefore, 1 span = half a cubit. The Jewish cubit was 2 spans, but the cubit-rod was 1 cubit + 1 handbreadth = 2 spans + 1 palm. For the same prophet Ezekiel says :—

> "A cubit [cubit-rule or rod] is a cubit and a handbreadth."—Ezek. xliii, 13.
> "In the man's hand a measuring reed of 6 cubits [as measured by the cubit-rule or rod] by the cubit and a handbreadth."—Ezek. xl, 5.

If the cubit-rod is 7 palms and the Jewish cubit 6 palms, then the cubit can only be six-sevenths of the length of the rod = 17·6798 British inches. And this will be the value of the cubit used by the excavators of this Siloam tunnel. Let us apply this value to the 1,200 cubits of the inscription, and thereby obtain a test of the entire length of the tunnel "from the spring to the pool." Taking different values of a cubit we have the following results :—

1,200 × 25	inches	=	2,500 feet
1,200 × 21	„	=	2,100 „
1,200 × 18	„	=	1,800 „
1,200 × 17·68	„	=	1,768 „
1,200 × 16	„	=	1,600 „

The Test.

We must not overlook the fact plainly stated in the fifth line of the inscription, that the 1,200 cubits include the entire length of the tunnel "from the spring to the pool." The cross passage of the Virgin's Pool = 50·8 feet must be included in this length, for the measurement is evidently taken from the spring itself. Indeed, may it not be true, that the Siloam tunnel originally reached to the spring itself, and that the cross passage of 50·8 feet, leading to the passage above the Virgin's

Fount, is a more modern excavation? This entire length from the masonry of the spring to the Siloam Pool is about 1,758 feet.

Captain Warren	...	...	1,708·0 + 50·8 = 1,758·8
Captain Conder	...	...	1,706·8 + 50·8 = 1,757·6
Dr. Robinson	...	...	... ... = 1,758

Captain Conder says: "Robinson's measurement includes in his 1,758 feet that portion of the cross passage which leads from the Siloam tunnel to the *back* of the Virgin's Pool, and which measures 50·8 feet by the chain." (*Quarterly Statement*, April, 1882, p. 122.) The above three measurements are taken from the same paragraph. But they all begin with the "back" of the masonry of the Virgin's Spring, some feet distant from the actual spring itself. The excavator who made the inscription probably never saw any masonry around the spring, neither should we allow it to interfere with our measurement "from the spring to the pool." The spring is fully 10 feet from the back masonry, where the above measurements began. The true length would therefore be about 1,768 feet "from spring to pool." This is the exact length given by the value of our cubit:

$$1{,}200 \times 17{\cdot}6798 \text{ inches} = 1{,}767{\cdot}98 \text{ feet.}$$

The accuracy of any value given to a cubit is always best seen when the number of cubits are large, for trifling errors are then multiplied into impossible values.

S. Beswick.

Strathroy, Ontario, Canada,
November, 1883.

NOTE ON KADESH BARNEA.

In the *Quarterly Statement* for July there is an extract from a contribution to the "Sunday School Times" by Dr. H. Clay Trumbull, in which he refers to the inability of the recent Expedition of the Palestine Exploration Society to visit 'Ayn Qadees ('Ain Kadeis), the site identified by the Rev. John Rolands as Kadesh Barnea. Perhaps it may be desirable that I should offer a short explanation on this matter in anticipation of the much fuller account which will appear in the narrative of the Expedition shortly to be published.

Dr. Trumbull is correct in saying that the discovery of Kadesh Barnea was one of the objects to be kept in view by our party, but the question was, where was it to be found? It would have been manifestly impossible for us to go into the Badiet et Tîh on a roving expedition in search of this or any other site, unless we had had unlimited time and means, both of men and money, at our disposal. Some of us thought that perhaps the

Springs of 'Ain Abu Werideh, at the western side of the Wâdy el Arabah, which we visited, might be the desired site of Kadesh, and plausible reasons might be adduced for this view; but, for myself, I am disposed to accept the identification advocated by Dr. Trumbull with great ability in his recent work in favour of 'Ain Kadeis. This spot has already been visited, and its position marked on the maps,[1] such as that of the Rev. F. W. Holland;[2] but it lies a long way off the line of our survey, and to have attempted to reach it under the circumstances in which we were placed, would have seriously risked the success of the main objects of our Expedition, namely, the topographical and geological surveys of the great Valley of the Arabah, and of its bordering hills on either side.

Nothing would have induced our Alowîn Arabs to deviate from our line of march, which, as at first arranged with Mohammed Ibn Jhad, was to take us towards Gaza, by forced marches, from a point in the Arabah Valley one day's journey north of Jebel Haroun. This course, which we only agreed to with the greatest reluctance, was afterwards altered by his brother Ali, to that which we actually took down to the shores of the Salt Sea, and which enabled us to complete in its entirety the examination of the whole valley. The account of this change of plan will be found in the forthcoming narrative; when it will be seen how close was the risk we ran of leaving the survey of the Arabah Valley in a mutilated and incomplete condition owing to the fears, real or pretended, of our Arab escort. No one has ever carried out similar work with greater zeal and labour than did Major Kitchener and his assistant, Mr. Armstrong, and if any one could have reached 'Ain Kadeis while traversing the Arabah Valley, they would have done so; but I feel sure they will concur with me in saying, that to have wandered away into the Tîh country in search of 'Ain Kadeis would have endangered the success of the whole survey, even had it been practicable.

In conclusion, allow me to say, that after having carefully read and considered Dr. Trumbull's arguments in his work "Kadesh Barnea," I am quite disposed to agree with him as regards this site; but I cannot go so far as to accept another mountain in the vicinity of 'Ain Kadeis for "Mount Hor," in favour of whose identity as Aaron's Tomb there is strong circumstantial, as well as traditional, evidence. I may have more to say at another time on this point.

Dublin, 24*th July*, 1884. EDWARD HULL.

[1] Such as Smith and Grove's Ancient Atlas (J. Murray).

[2] *Quarterly Statement* for January, 1884, p. 9, with sketch of the Wâdy Kadeis.